PB81-103491

Biological Monitoring of Toxic Trace Metals Volume 2. Toxic Trace Metals in Plants and Animals of the World. Part II

Dale W. Jenkins
Sarasota, FL

Prepared for

Environmental Monitoring Systems Lab.
Las Vegas, NV

Sep 80

U.S. Department of Commerce
National Technical Information Service
NTIS

EPA-600/3-80-091
September 1980

PB81-103491

BIOLOGICAL MONITORING OF TOXIC TRACE METALS
Volume 2. Toxic Trace Metals in Plants and Animals of the World
Part II

by

Dale W. Jenkins
3028 Tanglewood Drive
Sarasota, Florida 33579

Contract No. 68-03-0443

Project Officer

John A. Santolucito
Exposure Assessment Division
Environmental Monitoring Systems Laboratory
Las Vegas, Nevada 89114

ENVIRONMENTAL MONITORING SYSTEMS LABORATORY
OFFICE OF RESEARCH AND DEVELOPMENT
U.S. ENVIRONMENTAL PROTECTION AGENCY
LAS VEGAS, NEVADA 89114

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA 22161

EMSL-LV-2036

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

9/11/80 - AE16

1. REPORT NO. EPA-600/3-80-091

2.

3. RECIPIENT'S ACCESSION NO. PB81 103491

4. TITLE AND SUBTITLE
BIOLOGICAL MONITORING OF TOXIC TRACE METALS:
Volume 2. Toxic Trace Metals in Plants and Animals of the World. Part II

5. REPORT DATE Sept. 1980 Issuing Date.

6. PERFORMING ORGANIZATION CODE

7. AUTHOR(S)
Dale W. Jenkins

8. PERFORMING ORGANIZATION REPORT NO.

9. PERFORMING ORGANIZATION NAME AND ADDRESS
Dale W. Jenkins
3028 Tanglewood Drive
Sarasota, Florida 33579

10. PROGRAM ELEMENT NO.

11. CONTRACT/GRANT NO.
68-03-0443

12. SPONSORING AGENCY NAME AND ADDRESS
U.S. Environmental Protection Agency--Las Vegas, NV
Office of Research and Development
Environmental Monitoring Systems Laboratory
Las Vegas, Nevada 89114

13. TYPE OF REPORT AND PERIOD COVERED

14. SPONSORING AGENCY CODE
EPA/600/07

15. SUPPLEMENTARY NOTES
This report is presented in two volumes, including Volume 2, Parts I, II, and III, of which this publication is Volume 2, Part II.

16. ABSTRACT

The needs and priorities in using biological accumulator organisms for monitoring toxic trace metals in plants and animals are analyzed. The toxic trace metals selected for study are antimony, arsenic, beryllium, boron, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, tin, and vanadium. Data on the toxicity to humans, abundance, production, use and emissions of trace elements are presented and sources and pathways to plants and animals listed.

Volume 1 of the two volumes evaluates available data for the purpose of selecting biological monitoring organisms to monitor the 14 selected toxic metals, and recommends various organisms for use in national and international monitoring systems and networks. This study is based on the data compilation in Volume 2.

Volume 2 brings together the majority of the significant data on bioaccumulation and bioconcentration of the 14 trace metals discussed, which are considered to be of most importance to man and his food organisms. This volume provides a concise reference of baseline data for delineating the background or "normal" levels of toxic trace metals as well as levels that occur under various pollutant conditions.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
trace metals antimony, arsenic, beryllium, boron, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, tin, vanadium toxicology	bioaccumulation bioconcentration monitoring networks	57Y 68G 99D

18. DISTRIBUTION STATEMENT RELEASE TO PUBLIC	**19. SECURITY CLASS** *(This Report)* UNCLASSIFIED	**21. NO. OF PAGES**
	20. SECURITY CLASS *(This page)* UNCLASSIFIED	**22. PRICE**

EPA Form 2220-1 (Rev. 4-77) PREVIOUS EDITION IS OBSOLETE

DISCLAIMER

This report has been reviewed by the Environmental Monitoring Systems Laboratory, U.S. Environmental Protection Agency, and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the U.S. Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

CONTENTS

Volume 1. Biological Monitoring and Surveillance

Page

Foreword iii
Abstract iv
List of Tables vii
Acknowledgements x

I. Introduction. 1
    Monitoring. 2
    Biological monitoring 2
    Integrated exposure assessment monitoring 2
    Surveillance monitoring 3
II. Definition of Biological Monitoring Requirements. 5
    Selection of toxic trace metals 5
    Toxicity of trace metals to man 6
    Toxic trace metals in the environment 14
    Needs and priorities for biological monitoring. 37
    Summary 44
III. Biological Monitoring 46
    Value of biological monitoring. 46
    Concepts and types of biological monitoring 48
    Selection of biological monitoring organisms. 65
    Criteria for selection of biological monitoring organisms . . . 67
IV. Biological Monitoring Organisms 160
    Human hair. 163
    Rats. 164
    Pigeons 167
    Domestic animals. 168
    Higher plants, food plants and crops. 170
    Mosses and lichens. 172
    Birds 173
    Marine algae. 175
    Bivalve molluscs. 176
    Fish. 177
V. Biological Monitoring Systems and Networks. 179
    Integrated exposure assessment monitoring program 179
    Biological surveillance monitoring of the environment and food. 180
    National environmental pesticide monitoring networks. 183
    Proposed national environmental pesticide monitoring networks. 186
VI. Literature Cited. 189

CONTENTS (Continued)

Volume 2. Toxic Trace Metals in Plants and Animals of the World

Part I

Page

Foreword iii
Abstract iv
Table of Contents. v
Acknowledgements vii

I. Introduction. 1
 Sources of data 3
 Method of compilation and presentation of data. 4
 Problems and sources of error in evaluating data. 7
 Species of plants and animals analyzed. 8
II. Trace Metals in Biological Organisms. 9
 Antimony. 10
 Arsenic 30
 Beryllium 139
 Boron 150
 Cadmium 172
 Chromium. 364
 Cobalt. 444

Part II

II. Trace Metals in Biological Organisms (Continued). 504
 Copper. 505
 Lead. 619
 Mercury 779

Part III

II. Trace Metals in Biological Organisms (Continued). 984
 Nickel. 985
 Selenium. 1090
 Tin 1130
 Vanadium. 1151
III. Literature Cited. 1198

II. TRACE METALS IN BIOLOGICAL ORGANISMS (Continued)

COPPER IN MAMMALS (1)

Species	Locality	Tissue	Analysis PPM (2)	Authority
Alaskan moose *Alces alces gigas*	Alaska	hoof	(3.1-5.3)	Flynn & Franzmann (1974)
" " "	"	hair	(5.2-11.7)	"
Long-tailed field mouse *Apodemus sylvaticus*	Great Britain	liver	W (2.6-18.1)	Jefferies & French (1976)
" "	"	kidney	W (3.7-6.0)	"
" "	"	testis	W (12.2-18.7)	"
" "	"	whole	W (2.8-5.5)	"
Cow *Bos bovis*	Missouri Cattle exposed to lead smelter:			Dorn et al. (1974)
" "	" " fall	hair	D 8.26	"
" "	" winter	"	D 7.76	"
" "	" spring	"	D 6.94	"
" "	" summer	"	D 7.99	"
" "	" Controls-unexposed:			
" "	" " fall	"	D 7.25	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Cow *Bos bovis*	Missouri Cattle controls, unexposed:				Dorn et al. (1974)
	winter	hair	D	7.84	"
" "	" " spring	"	D	6.81	"
" "	" " summer	"	D	7.41	"
" "	No sig. diff. in Cu levels in hair of exposed and control cattle.				"
Goat *Capra hirsus*	Germany	hair mother		8.9	Anke et al. (1970)
" "	"	" newborn kid		8.3	"
" "	"	kidney		9.8	"
" "	"	" kid		19.0	"
" "	"	liver		11.3	"
" "	"	" kid		63.3	"
" "	"	milk		2.7	"
Guinea pig *Cavia porcellus*		hair, black		23.0±2.0	Kikkawa et al. (1958)
" "		" white		23.7±2.0	"
" "		" black piebald		19.7±9.2	"
" "		" white piebald		15.2±4.7	"
" "	Maryland (fed on swiss chard grown on sludge amended soil)	liver	D	(52.0-93.0)	Furr et al. (1976) "
" "	"	kidney	D	(23.0-39.0)	"

Guinea pig *Cavia porcellus*	Maryland	adrenal	D	(27.0-30.0)	"
" "	"	spleen	D	(21.0-30.0)	"
Bank vole *Clethrionomys glareolus*	Great Britain	liver	W	5.3	Jefferies & French (1976)
" "	"	kidney	W	5.8	"
" "	"	whole	W	4.3	"
Mouse *Mus musculus*		hair, black		17.7±2.3	Kikkawa et al. (1958)
" "		" white		11.3±1.1	"
" "		Diff. not significant.			"
Pack rat *Neotoma cinerea*	Utah	liver	D	(24.3-35.9)	Sharma & Shupe (1977)
" "	"	bone	D	(3.5-5.7)	"
Rabbit *Oryctolagus cuniculus*		hair, black		17.4±2.1	Kikkawa et al. (1958)
" "		" white		18.6±2.4	"
" "		Diff. not significant.			"
Sheep (Karakul) *Ovis aries*	Russia	wool, Cu deficient lambs		(8.0-10.0)	Rish (1970)
Harbor seal *Phoca vitulina*	Great Britain	blood	W	<0.1	Hamilton (1976)
" "	"	spleen	W	0.2±0.01	"
" "	"	heart	W	1.0±0.5	"
" "	"	muscle	W	<0.3	"
" "	"	kidney	W	2.0±0.5	"
" "	"	liver	W	21.0±13.0	"

Raccoon *Procyon lotor*	Illinois	baculum bone	A	(0.13-1.7)	Illinois (1971)
Rat *Rattus rattus*	Vermont	liver	D	10.7	Schroeder & Nason (1976)
" "	"	lung	D	13.3	"
" "	"	heart	D	28.0	"
" "	"	kidney	D	19.7	"
" "	"	spleen	D	20.3	"
Rock squirrel *Spermophilus variegatus*	Utah	liver	D	(12.1-24.1)	Sharma & Shupe (1977)
" "	"	bone	D	(4.0-7.8)	"
Pig *Sus scrofa*		hair, black		17.1±1.9	Kikkawa et al. (1958)
" "		hair, white		17.6±0.9	"
" "		Difference not significant.			"

COPPER IN BIRDS(1)

Species	Locality	Tissue	Analysis(2) PPM		Authority
Coopers Hawk *Accipiter cooperi*	Arizona New Mexico	egg	D	0.63±SE 0.107	Snyder et al. (1973)
Mallard duck *Anas platyrhynchus*	W. Canada	feather	D	(7.0-11.0) 9.0	Kelsall (1970)
" "	"	" vane	D	(3.5-9.0) 5.72±SE 0.793	" (1970a)
" "	"	feather	D	(3.4-6.9)4.64 ±SE 0.403	"
Black duck *Anas rubripes*	Quebec	"	D	8.0	"
White-fronted goose *Anser albifrons*	W. Canada	"	D	(11.0-16.0)13.0	"
Snow goose *Anser c. caerulescens*	Canada	"	D	(5.0-10.0)	Hanson & Jones (1968)
Lesser scaup *Aythya affinis*	W. Canada	"	D	(9.0-10.0) 10.0	Kelsall (1970)
Purple finch *Carpodacus purpureus*	New Hampshire	whole	D	12.0	Sturges et al. (1974)

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Common egret Casmerodius albus	Florida	egg	W	(0.78-1.28)	Ogden et al. (1974)
Black-throated blue warbler Dendroica caerulescens	New Hampshire	whole	D	11.0±SE 1.0	Sturges et al. (1974)
Black-throated green warbler Dendroica virens	"	"	D	11.0	"
Least flycatcher Empidonax minimus	"	"	D	10.0±SE 1.0	"
White ibis Eudocinnus albus	Florida	egg	W	(0.64-1.35)	Ogden et al. (1974)
American kestrel Falco sparverius	New York	"	W	0.38±SD 0.27	Lincer & McDuffie (1974)
Chicken Gallus domesticus	Germany	muscle		3.5	Anke et al. (1970)
" "	"	femur		6.2	"
" "	"	feather		5.2	"
" "	"	kidney		15.0	"
" "	"	liver		10.8	"
" "	"	egg		3.1	"
Bald eagle Haliaeetus leucocephalus	Wisconsin	"	D	(3.0-9.0)	Krantz et al. (1970)
" "	"	"	W	(0.5-1.2)	"
" "	Maine	"	D	(2.0-5.0)	"
" "	"	"	W	(0.3-0.6)	"
" "	Florida	"	D	(4.8-8.0)	"
" "	"	"	W	(0.7-1.2)	"

Veery *Hylocichla fuscescens*	New Hampshire	whole	D	11.0	Sturges et al. (1974)
Hermit thrush *Hylocichla guttata*	"	"	D	10.0±SE 1.0	"
Wood thrush *Hylocichla mustelina*	"	"	D	8.0±SE 1.0	"
Swainson's thrush *Hylocichla ustulata*	"	"	D	11.0±SE 1.0	"
Slate-colored junco *Junco hyemalis*	"	"	D	10.0±SE 1.0	"
Herring gull *Larus argentatus*	Great Britain	egg	W	(0.65-0.69)	Peden et al. (1973)
Lesser black-backed gull *Larus fuscus fuscus*	"	"	W	1.0	"
" " "	Norway	muscle	D	14.0	Lande (1977)
" " "	"	liver	D	17.0	"
" " "	"	kidney	D	14.0	"
Black & white warbler *Mniotilta varia*	New Hampshire	whole	D	10.0	Sturges et al. (1974)
Gannet *Morus bassanus*	Great Britain	liver	D	(9.0-47.0)	Parslow et al. (1973)
Osprey *Pandion haliaetus*	Florida	egg	W	(0.54-0.78)	Ogden et al. (1974)
Brown pelican *Pelecanus occidentalis*	"	"	W	(0.92-1.14)	"
" "	" South Carolina	"	W	(0.70-1.29)	Blus et al. (1977)
" "	", Florida & Georgia	liver	W	(4.3-9.0)	"

Cormorant *Phalacrocorax auritus*	Florida	egg	W	(0.68-1.25)	Ogden et al. (1974)
Rose-breasted grosbeak *Pheuticus ludovicianus*	New Hampshire	whole	D	9.0±SE 0.3	Sturges et al. (1974)
Scarlet tanager *Piranga olivacea*	"	"	D	16.0	"
Ovenbird *Seiurus aurocapillus*	"	"	D	10.0±SE 0.4	"
American redstart *Setophaga ruticilla*	"	"	D	12.0±SE 1.0	"
Eider *Somateria mollissima*	Norway	muscle	D	13.0	Lande (1977)
" "	"	liver	D	367.0	"
" "	"	kidney	D	43.0	"
" "	"	egg	D	4.0	"
Yellow-bellied sapsucker *Sphyrapicus varius*	New Hampshire	whole	D	13.0	Sturges et al. (1974)
Robin *Turdus migratorius*	"	"	D	11.0	"
Philadelphia vireo *Vireo philadelphicus*	"	"	D	13.0±SE 1.0	"
Red-eyed vireo *Vireo olivaceus*	"	"	D	11.0±SE 1.0	"
Solitary vireo *Vireo solitarius*	"	"	D	11.0	"

COPPER IN REPTILES AND AMPHIBIA (1)

Species	Locality	Tissue	Analysis PPM (2)		Authority
REPTILES					
Crocodile Crocodilus acutus	Florida	egg	W	(0.9-15.0)	Ogden et al. (1974)
AMPHIBIA					
Toad Bombina variegata	Yugoslavia Idrija mercury mine	liver	W	(5.0-5.1)	Byrne et al. (1975)
" "	" Poljane	"	W	(5.3-5.6)	"
Toad Bufo bufo	" Idrija mercury mine	"	W	81.4	"
" "	" Dolenjska	"	W	56.2	"
Frog Rana esculenta	" Dalmatian coast	"	W	(30.4-51.7)	"
" "	" Macedonia	"	W	(4.0-211.9)	"
Frog Rana temporaria	" Ljubljana marsh	"	W	176.4	"
" "	" Idrija mercury mine	"	W	318.9	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median and geometric mean are indicated as reported. pCi/g = picocuries per gram.

COPPER IN MARINE FISH(1)

Species	Locality	Tissue	Analysis(2) PPM		Authority
Wahoo *Acanthocybium petus*	Virgin Islands		W	(0.85-1.7) 1.14	Lowman et al. (1966)
" "	"		D	(3.0-8.1)4.6	"
Sand lance *Ammodytes tobianus*	N.E. Atlantic	muscle	D	3.8	Stevens & Brown (1974)
Anabus testudineus		muscle & soft parts	W	1.62	(1941) in Vinogradov (1953)
Wolf fish *Anarchichas minor*	W. Greenland	muscle	W	(0.07-1.21) 0.38 median 0.24	Bollingberg (1975)
" "	"	liver	W	(4.1-142.0) 49.2 median 35.0	"
Deepbody anchovy *Anchoa compressa*	Los Angeles	muscle	D	1.1	Emerson et al. (1976)
Long nose anchovy *Anchoa lamprotaenia*	Puerto Rico		A	(0.0-300.0) 100.0	Ting & DeVega (1969)

---

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ±Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Long nose anchovy *Anchoa lamprotaenia*	Puerto Rico		W	(0.57-2.7) 1.6	Lowman et al. (1966)
" "	"		D	(2.7-12.0) 7.3	"
Bay anchovy *Anchoa mitchelli*	N.W. Atlantic		D	10.0	"
" "	Texas	whole	D	2.8	Sims & Presley (1976)
Anchovy *Anchoa sp.*	Puerto Rico		W	(<0.55-8.9) 3.4	Lowman et al. (1966)
" "	"		D	(<2.2-40.0) 15.0	"
Salmon *Arripis georgianus*		muscle & soft parts	W	0.03	(1939) in Vinogradov (1953)
Australian salmon *Arripis truta*		"	W	0.1	"
" "	Tasmania	muscle	W	1.3	Eustace (1974)
Porcupine fish *Atopomycterus nichtemerus*	"	"	W	3.2	"
Frigate mackerel *Auxis thazard*	Spain	ovary	W	(1.17-2.7) 1.67	Establier (1970)
" "	"	"	D	(5.0-9.2) 7.09	"
Garfish *Belone belone*	N.E. Atlantic	muscle	D	(3.0-5.1)	Stevens & Brown (1974)
Lanternfish *Bolinichthys indicus*	Bermuda		D	13.0	Gibbs et al. (1974)

Menhaden (Machete) *Brevoortia maculata*	Peru	muscle		(0.47-0.6) 0.55	Echegarey (1974)
Jolthead porgy *Calamus bajonado*	Puerto Rico Mona Island	"	W	0.37	Lowman et al. (1966)
" "	"	"	D	1.5	"
" "	"	intestine	W	2.4	"
" "	"	"	D	10.0	"
" "	"	gill	W	1.2	"
" "	"	"	D	3.5	"
" "	"	scale	W	4.9	"
" "	"	"	D	6.9	"
" "	"	eye	W	1.3	"
" "	"	"	D	6.7	"
" "	"	vertebra	W	8.3	"
" "	"	"	D	14.0	"
Calarius batrachus		muscle	W	1.48	(1941) in Vinogradov (1953)
Elephant shark *Callorhyncus milli*	Tasmania	"	W	0.4	Eustace (1974)
Jack *Caranx georgianus*		"	W	0.04	(1939) in Vinogradov (1953)
Horse-eye jack *Caranx latus*	Puerto Rico		W	1.9	Lowman et al. (1966)
" "			D	7.8	"

Silky shark						
Carcharhinus	falciformis	Puerto Rico		W	(0.27-3.6) 1.1	Lowman et al. (1966)
"	"	"		D	(1.0-10.0) 3.4	"
"	"	N.W. Atlantic	liver	D	4.9	Windom et al. (1973b)
Oceanic whitetip shark						
Carcharhinus	longimanus	Puerto Rico	skin	W	8.6	Lowman et al. (1966)
"	"	"	"	D	21.0	"
"	"	"	muscle	W	0.5	"
"	"	"	"	D	2.4	"
"	"	"	stomach	W	0.38	"
"	"	"	"	D	2.1	"
"	"	"	liver	W	1.3	"
"	"	"	"	D	2.2	"
"	"	"	vertebra	W	3.5	"
"	"	"	"	D	11.0	"
Coney						
Cephalopholis	fulvus	"		W	(1.1-1.6)	"
"	"	"		D	(3.7-5.7)	"
Lanternfish						
Ceratoscopelus	warmingi	Bermuda		D	(1.9-2.4)	Gibbs et al. (1974)
Chilodactylus	macropterus		muscle	W	0.1	(1939) in Vinogradov (1953)
Chrysophrys	guttulatus		"	W	0.1	"
Atlantic herring						
Clupea	harengus	Scotland	"	W	(0.25-4.28) 0.92	Topping (1973a)

Atlantic herring *Clupea harengus*	Norway		D	4.0	Lande (1977)
" "		liver	D	14.2	(1931) in Vinogradov (1953)
" "		skin	D	2.3	"
" "		muscle	D	2.3	"
" "		ovary	D	2.1	"
" "		testis	D	2.3	"
Sardine *Clupea sardinea*			W	18.2	in Vinogradov (1953)
Conger eel *Conger sp.*	N.W. Atlantic	muscle	D	8.7	Windom et al. (1973b)
Wrasse *Ctenolabrus rupestris*	Sweden		D	53.0	Noddack & Noddack (1940)
Shiner perch *Cymatogaster aggregata*	Los Angeles	muscle	D	1.5	Emerson et al. (1976)
Sand sea trout *Cynoscion arenarius*	Texas	"	D	(1.5-1.8)1.7	Horowitz & Presley (1977)
" "	"	skin	D	(2.2-2.8)2.5	"
Spooted sea trout *Cynoscion nebulosus*	"	muscle	D	1.3	Sims & Presley (1976)
Stingray *Dasyatis brevicaudatus*	Tasmania		W	1.0	Eustace (1974)
Mackerel scad *Decapterus macarellus*	Puerto Rico		W	(1.1-1.7) 1.3	Lowman et al. (1966)
" "	"		D	(4.3-6.1)4.8	"

Lanternfish *Diaphus mollis*	Bermuda		D	7.0	Gibbs et al. (1974)
Porgy *Diplodus vulgaris*	Israel	muscle	D	4.2	Roth & Hornung (1977)
Pjerrey *Dontesthes regia*	Peru			(0.15-1.0) 0.54	Echegaray (1974)
Adriatic anchovy *Engraulis encrasicholus*	Adriatic Sea	muscle	W	(0.6-0.8) 0.7	Gilmartin & Revelante (1975)
" "		liver	W	(1.0-8.5)3.9	"
" "		whole	W	(0.96-1.52)1.1	"
Northern anchovy *Engraulis mordax*	Los Angeles	muscle	D	25.1	Emerson et al. (1976)
Anchovetta, Peruvian anchovy *Engraulis ringens*	Peru	whole	A	(25.0-30.0)	Goldberg (1962)
Grouper *Epinephelus aenus*	Israel	muscle	D	(2.6 -5.4)	Roth & Hornung (1977)
Grouper *Epinephelus ergastularius*			W	0.1	(1939) in Vinogradov (1953)
Red hind *Epinephelus guttatus*	Grand Bahama	muscle		(0.13-0.2)	Taylor & Bright (1973)
Nassau grouper *Epinephelus striatus*	"	"		(0.17-1.15)	"
" "	"	liver		(9.91-110.2)	"

Little tunny *Euthynnus alletteratus*	Spain	ovary	W	(1.52-1.65) 1.59	Establier (1970a)
" "	"	"	D	(6.71-7.08) 6.9	"
" "	N.W. Atlantic	muscle	D	1.6	Windom et al. (1973b)
" "	"	liver	D	3.9	"
Skipjack tuna *Euthynnus pelamis*	Peru		A	37.0	Goldberg (1962)
" "			W	(0.49-3.2)1.5	Lowman et al. (1967)
" "			D	(2.5-14.0) 6.4	"
Merlan *Gadus merlangus*		muscle	D	3.3	(1943) in Vinogradov (1953)
Common cod *Gadus morhua*	Scotland	"	W	(0.05-0.68) 0.290	Topping (1973a)
" "		"	W	3.8	(1933) in Vinogradov (1953)
" "	Norway	"	D	(1.0-3.0)	Stenner & Nickless (1974)
" "	"	liver	D	(8.0-18.0)	"
" "	"	gill	D	(4.0-19.0)	"
" "		muscle	W	0.4	(1939) in Vinogradov (1953)
School shark *Galiorhinus australis*	Tasmania	"	W	0.5	Eustace (1974)

White croaker *Genyonemus lineatus*	Los Angeles	muscle	D	10.9	Emerson et al. (1976)
Opaleye *Girella tricuspidata*			W	0.03	(1939) in Vinogradov (1953)
Witch sole *Glyptocephalus zachirus*	Oregon	"	D	(0.3-8.1) 3.08	Robertson et al. (1972)
Soldier fish *Gymnapastes marmoratus*	Tasmania	whole	W	6.3	Eustace (1974)
Red rock gurnurd *Heliocelenus papillosus*	"	muscle	W	1.6	"
Longspine squirrelfish *Holocentrus rufus*	Puerto Rico		W	(1.2-2.8)2.2	Lowman et al. (1966)
" "	"		D	(3.2-8.5)4.0	"
Lanternfish *Hygophum hygomi*	Bermuda		D	(1.8-4.9)	Gibbs et al. (1974)
" "	N.E. Atlantic	whole less head	D	3.4	Windom et al. (1973b)
Porbeagle, mackerel shark *Lamna nasus*	"	liver	D	18.1	Stevens & Brown (1974)
" "		epigonal organ	D	6.0	"
Lanternfish *Lampanyctus photonotus*	Bermuda		D	2.7	Gibbs et al. (1974)
Lanternfish *Lampanyctus pusillus*	"		D	(2.7-23.0)	"
Lateolabrax japonicus		muscle	W	37.08	(1938) in Vinogradov (1953)

Lateolabrax japonicus		liver	W	366.7	(1938) in Vinogradov (1953)
" "		spleen	W	312.7	"
Giant perch *Lates calcarifer*			W	0.2	(1939) "
Snoek *Leionura atun*	Tasmania	muscle	W	0.5	Eustace (1974)
Conger eel *Leptocephalus wilsoni*	"	"	W	9.0	"
Lanternfish *Lobianchia dofleini*	Bermuda		D	23.0	Gibbs et al. (1974)
Snapper *Lutjanus blackfordi*			W	0.38	(1939) in Vinogradov (1953)
Slender sole *Lyopsetta exilis*	Oregon		D	(3.6-5.1)	Robertson et al. (1972)
Macullochella macquariensis		muscle		0.1	(1939) in Vinogradov (1953)
Black marlin *Makaira ampla*	N.E. Australia	liver	W	(0.5-22.0) 4.6	Mackay et al. (1975)
" "	"	muscle	W	(0.3-1.2)0.4	"
Marlin *Makaira nigricans*	Puerto Rico		W	(0.36-2.6) 1.3	Lowman et al. (1966)
" "	"		D	(1.5-10.0) 2.7	"
" "	Japan	muscle	W	(0.14-0.67) 0.42	Nishigaki et al. (1974)

Haddock Melanogrammus aeglefinus	Scotland		W	(0.08-0.6) 0.26	Topping (1973a)
" "	Norway		D	(1.0-3.0)	Lande (1977)
Whiting Merluccius bilinearis			W	1.0	(1920) in Vinogradov (1953)
European hake Merluccius merluccius	Israel	muscle	D	(2.9-5.2)	Roth & Hornung (1977)
Merluza Merluccius peruanus	Peru	"		(0.28-0.58) 0.43	Echegaray (1974)
Atlantic croaker Micropogon undulatus	Texas	"	D	1.7	Horowitz & Presley (1977)
" "	"	skin	D	1.4	"
Pacific sole Microstomus pacificus	Oregon		W	0.254	Cutshall & Holton (1972)
" "	"		D	1.2	"
" "	S. California	liver	D	(7.4-9.5)	McDermott et al. (1976)
File fish Monocanthus chinensis		muscle	W	0.04	(1939) in Vinogradov (1953)
Striped mullet Mugil cephalus	N.W. Atlantic	"	D	1.9	Windom et al. (1973b)
" "	Tasmania	"	W	0.8	Eustace (1974)
" "	Peru			(0.0-0.75) 0.41	Echegaray (1974)

Striped mullet *Mugil cephalus*			W	0.82	(1939) in Vinogradov (1953)
Gumney shark *Mustelus antarcticus*			W	0.04	"
" "	Tasmania		W	<0.25	Eustace (1974)
Smooth dogfish *Mustelus canis*	Long Island	liver	W	(0.6-1.5)	Greig & Wenzloff (1977)
" "	"	muscle	W	(0.7-1.0)	"
Smoothhound shark *Mustelus sp.*	Peru			(0.09-0.62) 0.41	Echegaray (1974)
Neoplatycephalus macrodon		muscle		0.03	(1939) in Vinogradov (1953)
Yellowfin tuna *Neothunnus macropterus*	Peru	blood	A	400.0	Goldberg (1962)
" "	"	bone	A	12.0	"
" "	"	pyloric caeca	A	240.0	"
" "	"	eyeball	A	480.0	"
" "	"	white muscle	A	140.0	"
" "	"	dark muscle	A	500.0	"
" "	"	gill arch	A	40.0	"
" "	"	heart	A	1,200.0	"
" "	"	intestine	A	1,200.0	"
" "	"	intestine content	A	900.0	"

Yellowfin tuna *Neothunnus macropterus*	Peru	liver	A	620.0	Goldberg (1962)
" "	"	integument	A	160.0	"
" "	"	spleen	A	330.0	"
" "	"	stomach	A	200.0	"
" "	"	stomach content	A	480.0	"
" "	Japan	muscle	W	(0.50-0.52) 0.51	Nishigaki et al. (1974)
Lanternfish *Notoscopelus caudispinosa*	Bermuda		D	(2.4-3.9)	Gibbs et al. (1974)
Atlantic thread herring *Opisthonema oglinum*	Puerto Rico		W	1.0	Lowman et al. (1967)
" "	"		D	(2.0-4.0)3.0	"
" "	Mater Island		W	(0.81-3.1)1.4	"(1966)
" "	"		D	(1.3-12.0)5.5	" "
" "	Puerto Rico		A	(0.0-300)85.0 median 105.0	Ting & DeVega (1969)
Calico bass, kelp bass *Paralabrax clathratus*	California Catalina Island (unpolluted)	dorsal muscle	D	2.0	Stapleton (1968)
" "	" "	ventral muscle	D	2.0	"
" "	" "	gonad	D	5.0	"
" "	" "	liver	D	6.0	"
" "	" "	integument	D	3.0	"
" "	" "	heart	D	12.0	"

Calico bass, kelp bass Paralabrax clathratus	California Catalina Island unpolluted	eyeball	D	4.0	Stapleton (1968)
" "	Los Angeles (effluent from steam plant)	dorsal muscle	D	5.0	"
" "	" "	ventral muscle	D	2.0	"
" "	" "	gonad	D	6.0	"
" "	" "	liver	D	5.0	"
" "	" "	integument	D	3.0	"
" "	" "	heart	D	1.5	"
" "	" "	eyeball	D	8.0	"
Sand bass, Cabrilla Paralabrax humeralis	Peru	muscle		(0.55-0.62) 0.58	Echegaray (1974)
Flounder, lenguado Paralichthys adspersus	"	"		(0.3-0.6)0.48	"
Southern flounder Paralichthys lethostigma	N.W. Atlantic		D	3.0	Windom et al. (1973b)
" "	Texas	muscle	D	2.2	Sims & Presley (1976)
English sole Parophrys vetulus	Oregon		W	(0.24-0.27)	Cutshall & Holton (1972)
" "	"		D	(1.29-1.36)	"
" "	"	muscle	D	(0.2-15.0) 3.3	Robertson et al. (1972)
Pelates sexlineatus			W	0.04	(1939) in Vinogradov (1953)

White seaperch Phanerodon furcatus	Los Angeles	muscle	D	1.3	Emerson et al. (1976)
Cod Physiculus barbatus	Tasmania	"	W	0.8	Eustace (1974)
Sand flathead Platycephalus bassensis	"	"	W	0.6	"
Flounder Pleuronectes arsius			W	0.1	(1939) in Vinogradov (1953)
Sand dab Pleuronectes limanda	Norway	muscle	D	4.0	Stenner & Nickless (1974)
" "	"	gill	D	10.0	"
Plaice Pleuronectes platessa	Scotland	muscle	W	(0.08-0.7) 0.31	Topping (1973a)
" "	Great Britain	"	W	3.3	Wharfe & Van Den Broek (1977)
Barbu, Threadfin Polydactylus virginicus	Puerto Rico		W	1.1	Lowman et al. (1966)
" "	"		D	4.6	"
Threadfin Polynemus sp.			W	0.1	(1939) in Vinogradov (1953)
Wreckfish Polyprion americanus			W	4.0	(1934) "
Sand goby Pomatoschistus minutus	Great Britain	whole	W	(0.5-1.5) 1.17	Wharfe & Van Den Broek (1977)

Blue shark *Prionace glauca*	N.E. Atlantic	liver	D	(3.1-13.0) 5.7	Stevens & Brown (1974)
" "	"	muscle	D	(2.6-8.1)4.4	"
" "	"	gonad & epigonal organ	D	(2.9-7.0)5.6	"
Sand sole *Psettichthys melanosticus*	Oregon		W	(0.208-0.213)	Robertson et al. (1972)
" "			D	1.1	"
Knot fish *Pseudolabrus sp.*	Tasmania	muscle	W	0.8	Eustace (1974)
Winter flounder *Pseudopleuronectes americanus*	Long Island	liver	W	(2.7-13.8)	Greig & Wenzloff (1977)
" "	"	muscle	W	(0.5-1.1)	"
" "	Texas	"	D	(0.6-1.5) 1.0	Horowitz & Presley (1977)
" "	"	skin	D	(1.2-2.1)1.7	"
Clearnose skate *Raja eglanteria*	N.W. Atlantic	muscle	W	0.9 (est. from ash wt.)	Windom et al. (1973b)
" "	"	"	D	3.2	"
" "	"	liver	D	44.0	"
Skate *Raja sp.*			W	0.1	(1939) in Vinogradov (1953)
Greenland halibut *Reinhardtius hippoglossoides*	W. Greenland	muscle	W	(0.07-0.72) 0.18 median 0.16	Bollingberg (1975)

Atlantic guitarfish Rhinobatis lentiginosus	N.E. Atlantic	liver	D	6.6	Windom et al. (1973b)
" "	"	muscle	D	2.2	"
" "	"	stomach	D	6.2	"
Saccobranchus fossilis		muscle	W	1.53	(1941) in Vinogradov (1953)
Atlantic bonito Sarda sarda	Peru?	ovary	W	(1.62-2.78) 1.95	Establier (1970a)
" "	"	"	D	(5.36-8.12) 7.58	"
Pilchard Sardina pilchardus	Great Britain	muscle	D	6.6	Stevens & Brown (1974)
" "	Adriatic Sea	"	W	(0.9-1.2)1.0	Gilmartin & Revelante (1975)
" "	"	liver	W	(2.1-3.7)3.0	"
" "	"	whole	W	(0.94-1.09) 1.0	"
Gilt sardine Sardinella aurita	Israel	muscle	D	(2.8-6.0)	Roth & Hornung (1977)
Lizardfish Saurida undosquamis	"	"	D	(0.9-6.4)	"
Sciaena coitor		"	W	0.53	(1941) in Vinogradov (1953)
Drum Corvina Sciaena gilberti	Peru	"		(0.28-0.59) 0.44	Echegaray (1974)

Cutlah *Sciaena maculata*		muscle		0.29	(1939) in Vinogradov (1953)
Mackerel *Scomber australasicus*			W	0.03	"
Atlantic mackerel *Scomber scombrus*			W	1.15	"
" "	Great Britain	muscle	D	5.5	Stevens & Brown (1974)
King mackerel *Scomberomorus cavalla*	Puerto Rico		D	(1.5-12.0) 4.7	Lowman et al. (1966)
Spanish mackerel *Scomberomorus maculatus*	N.W. Atlantic	muscle	D	2.3	Windom et al. (1973b)
" "	"	liver	D	3.3	"
Rousette *Scyllium caniculata*			D	4.3	(1943) in Vinogradov (1953)
Almejas *Semele solida*	Peru	muscle		0.12	Echegaray (1974)
Yellowtail *Seriola sp.*	Middle Atlantic Bight	"	W	<0.63	Greig et al. (1976)
" "	"	liver	W	1.96	"
Queenfish *Seriphus politus*	Los Angeles	muscle	D	1.8	Emerson et al. (1976)
Spotted whiting *Sillago punctata*	Tasmania	"	W	0.6	Eustace (1974)
Sandsmelt *Sillago sp.*			W	0.1	(1939) in Vinogradov (1953)

Sole *Solea solea*	Israel	muscle	D	1.4	Roth & Hornung (1977)
Bonnethead *Sphyrna tiburo*	N.W. Atlantic	liver	D	3.6	Windom et al. (1973b)
" "	"	muscle	D	3.0	"
" "	"	stomach	D	9.2	"
Spiny dogfish *Squalus acanthias*	Sweden		D	18.0	Noddack & Noddack (1940)
" "	N.W. Atlantic	muscle	D	2.3	Windom et al. (1973b)
" "	"	liver	D	4.5	"
" "	"	spleen	D	16.0	"
California dogfish *Squalus suckleyi*	Oregon		D	(0.56-2.24) 1.22	Cutshall & Holton (1972)
Drumfish *Stellifer stellifer*	Puerto Rico		W	0.99	Lowman et al. (1966)
" "	"		D	4.1	"
Long-spined porgy *Stenotomus chrysops*	Texas	muscle	D	(1.0-1.7)1.3	Horowitz & Presley (1977)
" "	"	skin	D	(1.0-2.3)1.5	"
" "	"	viscera	D	9.5	"
Striped marlin *Tetrapturus audax*	Japan	muscle	W	(0.34-0.48) 0.42	Nishigaki et al. (1974)
Yellowfin tuna *Thunnus albacares*	Pacific	heart	A	590.0	Goldberg (1962)

Yellowfin tuna *Thunnus albacares*	Pacific	spleen	A	90.0	Goldberg (1962)
" "	"	gall bladder	A	80.0	"
" "	"	liver	A	980.0	"
" "	"	stomach	A	130.0	"
" "	"	eyeball	A	9.0	"
" "	"	integument	A	13.0	"
" "	"	dorsal muscle	A	75.0	"
" "	"	midline muscle	A	750.0	"
" "	"	bone	A	8.0	"
" "	Peru		W	1.0	Lowman et al. (1967)
" "	"		D	2.0	"
Bigeye tuna *Thunnus obesus*	Japan	muscle	W	(0.22-0.85) 0.53	Nishigaki et al. (1974)
Bluefin tuna *Thunnus thynnus*	Spain Gulf of Cadiz	ovary	W	(1.43-2.31)	Establier (1970a)
" "	" "	"	D	(5.36-11.02)	"
" "	" "	liver	W	ave. 74.3	"(1970b)
" "	" "	"	D	244.6	" "
" "	" "	"	A	5,608.8	" "
" "	" "	heart	W	4.2	" "
" "	" "	"	D	18.1	" "
" "	" "	"	A	368.8	" "

Bluefin tuna *Thunnus thynnus*	Spain, Gulf of Cadiz	intestine	W	1.4	Establier (1970b)
" "	" "	"	D	5.8	"
" "	" "	"	A	112.6	"
" "	" "	lung	W	1.8	"
" "	" "	"	D	7.0	"
" "	" "	"	A	46.6	"
" "	" "	kidney	W	8.6	"
" "	" "	"	D	27.8	"
" "	" "	"	A	585.5	"
" "	" "	stomach	W	2.2	"
" "	" "	"	D	8.5	"
" "	" "	"	A	192.8	"
" "	" "	spleen	W	1.2	"
" "	" "	"	D	4.4	"
" "	" "	"	A	59.4	"
Rough scad *Trachurus lathami*	Texas	muscle	D	(2.4-2.6)2.5	Horowitz & Presley (1977)
" "		skin	D	(2.2-2.8)2.5	"
Scad *Trachurus symmetrius merphyi*	Peru	muscle		(0.05-0.59) 0.32	Echegaray (1974)
Horse mackerel *Trachurus trachurus*	Great Britain	"	D	4.0	Stevens & Brown (1974)
Atlantic cutlass fish *Trichiurus lepturus*	Puerto Rico		W	(0.69-2.4)1.4	Lowman et al. (1966)

Atlantic cutlass fish Trichiurus lepturus	Puerto Rico		D	(3.3-11.0) 6.0	Lowman et al. (1966)
Red hake Urophycis chuss	Long Island	liver	W	(3.2-6.0)	Greig & Wenzloff (1977)
" "	"	muscle	W	(0.5-0.7)	"
Swordfish Xiphias gladius	Peru	"		(1.07-1.4) 1.25	Echegaray (1974)
" "	Japan	"	W	(0.32-0.55) 0.42	Nishigaki et al. (1974)

COPPER IN FRESHWATER FISH (1)

Species	Locality	Tissue	Analysis (2) PPM		Authority
Bleak *Alburnus alborella*	Italy	muscle	A	88.0±SE 4.0	Merlini et al. (1971)
" "	"	bone	A	39.0±SE 2.0	"
Alewife *Alosa pseudoharengus*	Lake Michigan	whole	W	0.85±0.05	Lucas et al. (1970)
Shad *Alosa sapidissima*		muscle & soft tissue	W	2.2	(1933) in Vinogradov (1953)
Northern rock bass *Ambloplites rupestris*	Ontario	muscle	W	1.7	Hutchinson et al. (1975)
" "	"	liver	W	4.9	"
" "	"	kidney	W	3.0	"
" "	"	gill	W	2.1	"
Goldfish *Carassius auratus*	Lake Erie	liver	W	14.0±1.0	Lucas et al. (1970)
Quillback *Carpiodes cyprinus*	Illinois	muscle		(0.10-0.30) 0.17	Mathis & Cummings (1973)

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

White sucker *Catostomus commersoni*	Ontario	muscle	W	1.4	Hutchinson et al. (1975)
" "	"	liver	W	15.0	"
" "	"	kidney	W	1.7	"
" "	"	gill	W	1.3	"
Lake herring *Coregonus artedii*	Lake Superior	liver	W	12.0±6.0	Lucas et al. (1970)
Lake whitefish *Coregonus clupeiformis*	"	"	W	2.4±0.1	"
" "	Lake Michigan	"	W	8.5±2.5	"
" "	Manitoba Moose Lake	muscle, bone & skin	W	0.50	Uthe & Bligh (1971)
" "	Lake Ontario	"	W	0.94	"
Bloater *Coregonus hoyi*	Lake Superior	liver	W	2.4±0.8	Lucas et al. (1970)
" "	Lake Michigan	"	W	7.4±2.5	"
Whitefish *Coregonus macrophthalmus*	Italy	muscle	A	33.0±SE 4.0	Merlini et al. (1971)
" "	"	bone	A	29.5±SE 0.35	"
Slimy sculpin *Cottus cognatus*	Lake Erie			(1.80-4.32)	Thomas (1972)
Carp *Cyprinus carpio*	Illinois	muscle		(0.12-0.41) 0.24	Mathis & Cummings (1973)
" "		"	W	(1.5-2.2)	(1938) in Vinogradov (1953)
Gizzard shad *Dorosoma cepedianum*	Illinois	"		(0.18-0.39) 0.26	Mathis & Cummings (1973)

Northern pike *Esox lucius*	Manitoba	muscle, bone & skin	W	(0.70-0.89)	Uthe & Bligh (1971)
" "	Lake Erie	"	W	0.7	"
" "	Illinois	muscle		(0.05-0.08) 0.07	Mathis & Cummings (1973)
" "		"	W	1.4	Hutchinson et al. (1975)
" "	Ontario	liver	W	10.9	"
" "	"	kidney	W	2.6	"
" "	"	gill	W	1.9	"
Mosquito fish *Gambusia affinis*	Oklahoma	whole	D	46.9±SD 7.8	Namminga et al. (1974)
Black bullhead *Ictalurus melas*	"	"	D	135.0±SD 87.0	"
Brown bullhead *Ictalurus nebulosus*	Ontario	muscle	W	1.3	Hutchinson et al. (1975)
" "	"	liver	W	30.3	"
" "	"	kidney	W	2.5	"
" "	"	gill	W	1.8	"
Big mouth buffalo *Ictiobius cyprinellus*	Illinois	muscle		(0.07-0.26) 0.18	Mathis & Cummings (1973)
Long-nose gar *Lepisosteus platostomus*	"	"		(0.13-0.2)1.16	"
Orange spotted sunfish *Leopmis humilis*	Oklahoma	whole	D	14.6±SD 3.0	Namminga et al. (1974)
Roach *Leuciscus rutilus*	Latvia	Highest Cu in liver, eggs, and gill arches; smallest in muscle & scales.			Ilzinya (1965)

Eelpout *Lota vulgaris*			4.1		(1933) in Vinogradov (1953)
Smallmouth bass *Micropterus dolomieui*	Illinois	muscle		(0.14-0.16) 0.15	Mathis & Cummings (1973)
Largemouth bass *Micropterus salmoides*	"	"		(0.08-0.13) 0.10	"
White bass *Morone chrysops* (=Roccus chrysops)	Lake Erie	liver	W	4.0	Lucas et al. (1970)
" "	Illinois	muscle		(0.17-0.24) 0.19	Mathis & Cummings (1973)
Redhorse sucker *Moxostoma aureolum*	Ontario	muscle	W	1.5	Hutchinson et al. (1975)
" "	"	liver	W	12.8	"
" "	"	kidney	W	2.0	"
" "	"	gill	W	1.9	"
Silver red horse *Moxostoma macrolepidotum*	Illinois	muscle		(0.16-0.20) 0.18	Mathis & Cummings (1973)
Spottail shiner *Notropis hudsonius*	Lake Erie	whole	W	1.2±0.20	Lucas et al. (1970)
" "	Lake Michigan	"	W	0.8±0.15	"
Smelt *Osmerus eperlanus*		muscles & soft parts	W	3.3	(1933) in Vinogradov (1953)
Rainbow smelt *Osmerus mordax*	Lake Michigan	liver	W	1.5±0.1	Lucas et al. (1970)
" "	Lake Erie	muscle, bone & skin	W	0.78	Uthe & Bligh (1971)

Rainbow smelt *Osmerus mordax*	Lake Erie			(0.56-2.46)	Thomas (1972)
Yellow perch *Perca flavescens*	"	muscle, bone & skin	W	1.28	Uthe & Bligh (1971)
" "	"	liver	W	3.0±2.0	Lucas et al. (1970)
European perch *Perca fluviatilis*		muscle & soft parts	W	2.1	(1933) in Vinogradov (1953)
Trout perch *Percopsis omiscomaycus*	Lake Michigan	whole	W	2.7±0.6	Lucas et al. (1970)
" "	Lake Superior	"	W	0.8±0.3	"
Round whitefish *Prosopium cylindraceum*	"	liver	W	3.8±2.0	"
Bitterling *Rhodeus sericeus amarus*		Highest Cu in gill			Malacea & Gruia (1965)
Brown trout *Salmo trutta fario*		muscle & soft parts	W	3.1	(1933) in Vinogradov (1953)
Lake trout *Salvelinus namaycush*	Lake Superior	liver	W	28.0±8.0	Lucas et al. (1970)
" "	Lake Michigan	"	W	21.0±10.0	"
" "	New York	muscle	W	(15.0-36.0)	Tong et al. (1974)
Rudd *Scardinius erythrophthalmus*	Italy	"	A	45.0±SE 8.0	Merlini et al. (1971)
Walleye pike *Stizostedion vitreum*	Lake Erie			(0.37-0.53)	Thomas (1972)
" "	"	liver	W	4.0	Lucas et al. (1970)

COPPER IN MOLLUSCA (1)

Species	Locality	Tissue	Analysis PPM (2)		Analysis
Gastropod Acmaea digitalis	California	shell	D	(<5.8-7.5)	Graham (1972)
" "	"	soft parts	D	(11.2-12.9)	"
Aeolidia papillosa	Great Britain		A	24.0	Webb (1937)
Freshwater mussel Amblema perplicata	Texas	digestive gland	W	9.5±SD 4.6	Seagle & Ehlman (1974)
" "	"	gill	W	6.1±SD 2.0	"
" "	"	mantle	W	3.6±SD 1.2	"
" "	"	foot	W	2.9±SD 1.2	"
Clam Amblema plicata	Illinois			(0.3-3.2)1.2	Mathis & Cummings (1973)
Arch shell Anadara granosa	Thailand		W	5.6	Huschenbeth & Harms (1975)

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Blood clam *Anadara satowi nipponensis*	Japan	shell		(0.1-1.0)	Tomita & Nakatsu (1968)
Freshwater mussel *Anodonta grandis*	Texas	digestive gland	W	1.8±SD 1.4	Seagle & Ehlman (1974)
" "	"	gill	W	1.5±SD 0.9	"
" "	"	mantle	W	0.6±SD 0.4	"
" "	"	foot	W	0.4±SD 0.4	"
Freshwater clam *Anodonta sp.*	Illinois	soft parts	D	6.88	Anderson (1977)
" "	"	shell	D	9.30	"
Saddle oyster *Anomia walteri*	New Zealand	soft parts	W	14.0	Nielsen & Nathan (1975)
Archidoris montereyensis	W. United States		W	1.3	(1938) in Vinogradov (1953)
" "	"		D	5.9	"
Archidoris undosa	"		W	8.0	"
" "	"		D	28.3	"
Astrea sp.	"		W	12.6	"
" "	"		D	43.4	"
Ridged mussel *Aulocomya ater*	Peru			(0.92-1.66)	Echegaray (1974)
" "	"			4.12	Pardo (1972)
Ridged mussel *Aulocomya maoriana*	New Zealand	soft parts	D	(3.3-19.0)9.0	Nielsen & Nathan (1975)

Barbatia lima	Japan	shell		0.5	Tomita & Nakatsu (1968)
Batillaria multiformis	"	"		2.9	"
Whelk *Buccinum undatum*	Scotland	soft parts	D	78.0	Mackay et al. (1972)
" "	Irish Sea	"	D	180.0	Segar et al. (1971)
Channeled whelk *Busycon canaliculatum*	E. United States	muscle	W	(11.9-21.0)	Greig et al. (1977b)
" "	"	digestive gland	W	(32.4-1,135.0)	"
Beaded top shell *Calliostoma zizyphinum*	Spain & Portugal		D	50.0	Stenner & Nickless (1975)
" "	Great Britain	podium	W	54.0	(1937) in Vinogradov (1953)
" "	"	gonad & liver	W	110.0	"
Cellana dorsuosa	Japan	shell		0.2	Tomita & Nakatsu (1968)
Cellana nigrolineata	"	"		(0.0-0.2)	"
Cellana toreuma	"	"		(0.1-0.3)	"
Edible cockle *Cerastoderma edule* (=*Cardium edule*)	Spain & Portugal		D	(6.0-26.0)	Stenner & Nickless (1975)
" "	Great Britain		W	1.4	Segar et al. (1971)
" "	"		D	11.0	"
Cockle *Chione semigranosum*	Japan	shell		0.2	Tomita & Nakatsu (1968)

Cockle Chione undatella	W. United States		W	(1.2-2.0)	(1938) in Vinogradov (1953)
" "	"		D	(9.4-12.4)	"
Scallop Chlamys operculis	Great Britain		W	2.1±0.78	Bryan (1973)
" "	"		D	15.7±5.7	"
" "	"	renal organ	W	240.0	Bryan (1971)
" "	"	soft parts	W	1.7	"
Scallop Chlamys septemradiata	Scotland	"	D	24.0	Mackay et al. (1972)
Chlorostoma lischkei	Japan	shell		0.3	Tomita & Nakatsu (1968)
Chlorostoma xanthostigma	"	"		(0.2-3.3)	"
Mussel Choromytilus meridionalis	S. Africa		D	(5.9-14.0)	Watling & Watling (1976)
Portuguese oyster Crassostrea angulata	Spain & Portugal		D	(120.0-435.0)	Stenner & Nickless (1975)
" "	Spain, Cadiz		W	(38.1-463.2)	Establier (1969, 1969a)
" "	" "		D	(181.5-3,275.8)	"
" "	" Coast		W	(36.2-310.5)	"
" "	" "		D	(170.1-2,008.6)	"
" "	"	mantle	W	82.4	Establier & Guttierrez (1970)
" "	"	gill	W	70.4	"

Portuguese oyster *Crassostrea angulata*	Spain	labial palp	W	35.7	Establier & Guttierrez (1970)
" "	"	adductor muscle	W	19.8	"
" "	"	visceral mass	W	53.7	"
" "	"	heart	W	158.7	"
" "	"	gonad, male	W	10.6	"
" "	"	gonad, female	W	26.3	"
" "	" (green)	mantle	W	435.1	"
" "	"	labial palp	W	532.7	"
" "	"	gill	W	451.6	"
" "	"	visceral mass	W	338.7	"
" "	"	adductor muscle	W	68.4	"
Sydney rock oyster *Crassostrea commercialis*	New South Wales	soft parts	W	(3.0-48.0)20.0	Mackay et al. (1975a)
" "	Tasmania		W	18.7	Ratkowski et al. (1974)
Pacific oyster *Crassostrea gigas*	Japan	shell		(1.6-2.9)	Tomita & Nakatsu (1968)
" "	S. Africa	soft parts	D	33.0	Watling & Watling (1976)
" "	Tasmania	"	W	(9.4-84.4)	Thrower & Eustace (1973)

Pacific oyster Crassostrea gigas	Great Britain	soft parts	D	(340.0-6,480)	Boyden & Romeril (1974)
" "	W. United States	"	W	(7.80-37.5)	Pringle et al. (1968)
Rock oyster Crassostrea glomerata	New Zealand	"	W	(4.4-380.0) 40.0	Nielson & Nathan (1975)
Oyster Crassostrea nippona	Japan	shell		(0.1-8.0)	Tomita & Nakatsu (1968)
Atlantic oyster Crassostrea virginica	E. United States		W	31.3	(1939) Vinogradov (1953)
" "	Georgia	soft parts	D	(48.0-261.0)	Windom & Smith (1972)
" "	N.W. Atlantic		D	(11.0-110.0) 46.0	Windom (1972)
" "	E. United States		W	(7.0-517.0) 91.50	Pringle et al. (1968)
" "	Maryland (green oysters in effluent, steam electric plant)	soft parts	D	1,120.0 (max.)	Roosenburg (1969)
" "	" "	"	D	(100.0-1,000.0)	"
" "	Chesapeake Bay	"	W	(5-240)	Bender et al. (1972)
" "	Alabama, Mobile Bay		W	(3.7-78.0) 19.5	Kopfler & Mayer (1973)
" "	E. United States		W	(8.8-520.0) 137.5	McFarren et al. (1962)

Atlantic oyster *Crassostrea virginica*	Long Island		W	(84.0-600.0) 230.0	Galtsoff (1964)
" "	E. United States		W	(34.4-137.2) 78.5	Coulson et al. (1932)
" "	Connecticut		D	(1,260-2,208)	Greig et al. (1975)
" "	"		D	(27.8-28.9)	"
" "	Rhode Island		W	(92.0-140.3) 121.4	Schuster & Pringle (1969)
" "	Maine to North Carolina		W	(6.83-517.4)133.4	"
" "	Texas	shell	D	3.0	Smith & Wright (1962)
" "	"	soft parts	D	161.0	Sims & Presley (1976)
" "	N. Atlantic		W	(41.2-122.9) 71.8±6.6	Coulson et al. (1932)
" "	S. Atlantic		W	(4.6-38.0) 16.1±3.8	"
" "	Gulf States		W	(5.9-26.8) 16.0±1.9	"
Atlantic slipper shell *Crepidula fornicata*	Great Britain		W	40.3	Segar et al. (1971)
" "	"		D	270.0	"
Donax *Donax gouldii*	W. United States		W	(0.6-0.7)	(1938) in Vinogradov (1953)
" "	"		D	(4.1-4.4)	"
Donax *Donax vittatus*	Spain & Portugal		D	(85.0-100.0)	Stenner & Nickless (1975)

Musk octopus *Eledone moschata*	Italy	hepato-pancreas		226.67±SD 7.14	Rocca & Noviella (1967)
Razor clam *Ensis arcuatus*	Spain & Portugal		D	35.0	Stenner & Nickless (1975)
Clam *Fusconaia flava*	Illinois			(0.9-2.0)1.7	Mathis & Cummings (1973)
Top shell *Gibbula cineraria*	Portugal & Spain		D	23.0	Stenner & Nickless (1975)
Top shell *Gibbula lineata*	"		D	22.0	"
Top shell *Gibbula umbilicalis*	"		D	(30.0-48.0)	"
Bittersweet *Glycymeris albolineata*	Japan	shell		(0.1-0.9)	Tomita & Nakatsu (1968)
Bittersweet *Glycimeris glycimeris*	Irish Sea	soft parts	D	5.7	Segar et al. (1971)
Gomphina melanaegis	Japan	shell		0.4	Tomita & Nakatsu (1968)
Snail *Gyraulus sp.*	Oklahoma	soft parts	D	76.4±SD 5.4	Namminga et al. (1974)
" "	"	shell	D	9.9±SD 1.5	"
Red abalone *Haliotis rufescens*	California	gill	D	(18.8-123.5)	Anderlini (1974)
" "	"	mantle	D	(8.9-23.1)	"

Red abalone *Haliotis rufescens*	California	digestive canal	D	(11.2-78.1)	Anderlini (1974)
" "	"	foot	D	(1.4-12.8)	"
Snail *Helix aspera*	Great Britain	skin	D	(38.34-49.65)	Coughtrey & Martin (1976)
" "	"	foot	D	(41.08-59.97)	"
" "	"	kidney	D	(28.9-32.44)	"
" "	W. United States		W	(16.3-108.0)	(1938) in Vinogradov (1953)
" "	"		D	(107.0-561.0)	"
Snail *Helix pomatia*		blood	W	33.0	"
Chiton *Ischnochiton conspicuus*	"		W	(2.5-3.7)	"
" "	"		D	(9.7-10.8)	"
Freshwater clam *Lampsilis sp.*	Illinois	soft parts	D	12.67	Anderson (1977)
Freshwater clam *Lasmigona sp.*	"	"	D	5.15	"
Latona cuneata	Japan	shell		0.6	Tomita & Nakatsu (1968)
Common periwinkle *Littorina littorea*	Scotland		W	(6.2-20.0) 13.32	Topping (1973b)
" "	Great Britain	soft parts	W	(19.5-40.0)	Wharf & Van Den Broek (1977)
Periwinkle *Littorina littoralis*	"	podium	W	47.3	(1937) in Vinogradov (1953)

Periwinkle *Littorina littoralis*	Great Britain	gonad & liver	W	91.3	(1937) in Vinogradov (1953)
" "	Norway		D	(20.0-170.0)	Stenner & Nickless (1974)
Periwinkle *Littorina saxatilis*	"		D	80.0	"
Squid *Loligo opalescens*	S. California	liver	D	(680.0-15,160.0) 5,350 ±SD 3,210.0	Martin & Flegal (1975)
" "	"	"	D	(3,230.0-13,740.0) 8,370.0±SD 3,130.0	"
Squid *Loligo sp.*			D	158.0	(1943) in Vinogradov (1953)
Squid *Loliguncula brevis*	N.W. Atlantic		W	(3.9-15.7)	Windom (1972)
" "	"		D	(14.0-58.0) 30.0	"
Lunellacoronata coreensis	Japan	shell		(0.4-0.5)	Tomita & Nakatsu (1968)
Macoma *Macoma nasuta*	California near outfall		D	(79.8-140.7)	Emerson et al. (1975)
Mactra crossei	Japan	shell		0.3	Tomita & Nakatsu (1968)
Mactra veniriformis	"	"		0.1	"
Northern quahaug, hardshell clam *Merceneria merceneria*	N.W. Atlantic		W	(0.36-12.0)	Windom (1972)
" "	"		D	(2.0-67.0)14.0	"
" "	Great Britain		D	25.0	Segar et al. (1971)

Northern quahaug, hardshell clam *Merceneria merceneria*	E. United States	soft parts	W	(1.0-16.50) 2.6	Pringle et al. (1968)
" "	"	"		(1.0-16.5) 2.6	Ronk (1971)
" "	Great Britain	"	D	(18.0-45.0)	Romeril (1974)
Meretrix lusoria	Japan	shell		(0.2-1.1)	Tomita & Nakatsu (1968)
Machas *Mesodesma donacium*	Peru			(0.5-0.74) 0.62	Echegaray (1974)
" "	"		D	1.04	Pardo (1972)
Northern horse mussel *Modiolus modiolus*	Irish Sea		W	(0.25-9.15)	Segar et al. (1971)
" "	"		D	(10.0-44.0)	"
" "	Great Britain	gonad	A	80.0	(1937) in Vinogradov (1953)
Top shell *Monodonta labio*	Japan	shell		(0.2-4.3)	Tomita & Nakatsu (1968)
Top shell *Monodonta neritoides*	"	"		0.1	"
Soft-shell clam *Mya arenaria*	E. United States	soft parts	W	(1.20-90.0) 5.80	Pringle et al. (1968)
Ocean mussel *Mytilus californianus*	California	"	D	(9.0-30.3)	Graham (1972)
" "	"	shell	D	(8.1-18.6)	"
" "	"	digestive gland	D	(14.0-69.0)	Alexander & Young (1976)

Mussel *Mytilus edulis*	Ligurian Sea	soft parts	D	(5.0-11.2)	Macchi & Chamard (1966)
" "	"	shell	D	(<5.8-8.6)	"
" "	Japan	"		(1.2-2.8)	Tomita & Nakatsu (1968)
" "	Great Britain		W	1.1	Segar et al. (1971)
" "	"		D	9.6	"
" "		soft parts	D	(7.0-11.0)	Boyden (1975)
" "	New Zealand	whole	D	(5.0-11.0) 9.0	Brooks & Rumsby (1965)
" "	"	mantle	D	11.0	"
" "	"	gill	D	20.0	"
" "	"	muscle	D	1.0	"
" "	"	visceral mass	D	19.0	"
" "	"	intestine	D	15.0	"
" "	"	foot	D	13.0	"
" "	"	gonad	D	6.0	"
" "	"	shell	D	3.0	"
" "	Portugal & Spain		D	(6.5-14.0)	Stenner & Nickless (1975)
" "	Norway	soft parts	D	(3.0-130.0)	" (1974)
" "	W. United States		W	(2.3-3.7)	(1938) in Vinogradov (1953)
" "	"		D	(1.7-23.8)	"

Mussel *Mytilus edulis*	West Greenland	soft parts	W	(1.0-5.4)	Bollingberg (1975)
" "	California	"	D	(5.0-11.2)	Graham (1972)
" "	"	shell	D	(<5.8-8.6)	"
" "	Tasmania	soft parts	W	3.1	Eustace (1974)
" "	Great Britain	"	W	(0.5-3.8)	Wharfe & Van Den Broek (1977)
" "	Norway	"	D	7.0	Lande (1977)
Mussel *Mytilus galloprovincialis*	Ligurian Sea		D	(3.0-30.0) 10.0	Macchi & Chamard (1966)
" "	N.W. Mediterranean		D	(2.4-95.0)	Fowler & Oregione (1976)
Mussel *Mytilus obscurus*	Australia		W	0.2	(1939) in Vinogradov (1953)
Mytilis viridis	Thailand		W	7.3	Huschenbeth & Harms (1975)
Mud snail *Nassarius fossatus*	California near outfall		D	334.7	Emerson et al. (1975)
Neverita didyma	Japan	shell		(0.3-0.6)	Tomita & Nakatsu (1968)
Squid *Notodarius gouldi*	Tasmania	soft parts	W	5.3	Eustace (1974)
Dog whelk *Nucella lapillus*	Great Britain polluted area		D	(385-1750)905	Stenner & Nickless (1974)

Dog whelk *Nucella lapillus*	Great Britain clean area		D	(20.0-110.0) 23.0	Stenner & Nickless (1974)
" "	Spain & Portugal		D	25.0	" (1975)
Nut clam *Nucula sulcata*	Scotland (sludge dump site)	soft parts	D	267.0	Mackay et al. (1972)
Octopus *Octopus vulgaris*	N.W. Atlantic		W	1.2	Windom (1972)
" "	"		D	5.0	"
" "	Italy	hepato-pancreas		(44.96-150.88)	Rocca & Noviello (1967)
" "	"	"	D	4,880.0±SD 2,549	Rocca (1969)
Olive *Oliva musterina*	Japan	shell		0.2	Tomita & Nakatsu (1968)
Purple swarf olive *Oviella biplicata*	California	soft parts	D	(71.5-177.3)	Schwimer (1973)
" "	"	shell	D	(3.4-4.4)	"
Squid *Ommastrephes bartrami*	Pacific Ocean	liver	D	(17.0-696.0) 195.0±SD 212.0	Martin & Flegel (1975)
Squid *Ommastrephes illicebrosa*	N.E. United States		A	2700.0	Nicholls et al. (1959)
Omphalius pfeifferi	Japan	shell		(0.1-0.3)	Tomita & Nakatsu (1968)
Omphalius rusticum	"	"		0.3	"

Oyster Ostrea angasi	Tasmania	soft parts	W	(9.0-80.5)	Thrower & Eustace (1973)
" "	"	"	W	57.9	Eustace (1974)
Oyster Ostrea edulis		(normal)	W	(25.0-350.0)	Vinogradov (1953)
" "		(green)	W	(1,000.0-3,300.0)	"
" "	S. Africa		D	38.0	Watling & Watling (1976)
" "	Great Britain		D	(777.0-1,786)	"
Dredge oyster Ostrea lutaria	New Zealand	soft parts	W	(1.0-41.0) 11.0	Nielsen & Nathan (1975)
Oyster Ostrea sinuata	"	"	D	(21.0-53.0) 41.0	Brooks & Rumsby (1965)
" "	"	mantle	D	34.0	"
" "	"	gill	D	100.0	"
" "	"	muscle	D	23.0	"
" "	"	visceral mass	D	49.0	"
" "	"	kidney	D	22.0	"
" "	"	heart	D	59.0	"
" "	"	shell	D	<1.0	"
Pipi Paphies australis	"		W	1.0	Nielsen & Nathan (1975)
Tuatua Paphies subtriangulata	"		W	5.1	"

Toheroa *Paphies ventricosa*			W	1.7	Nielsen & Nathan (1975)
Limpet *Patella vulgata*	Irish Sea		D	7.7	Segar et al. (1971)
" "	Great Britain Below desalination plant		D	(25.4-282.0)	Romeril (1977)
" "	" control		D	(6.60-12.5)	"
" "	Israel, sewage discharge	soft parts	D	(10.5-11.2)	Navrot et al. (1974)
" "	" coast	"	D	(5.5-8.2)	"
" "	"	skeletal part	D	(4.6-6.0)	"
" "	Great Britain	soft parts	D	(5.5-22.0)	Preston et al. (1977)
" "	Bristol Channel polluted		W	(5.4-12.0)	Peden et al. (1973)
" "	" unpolluted		W	2.0	"
" "	Norway		D	17.0	Stenner & Nickless (1974)
Limpet *Patella sp.*	Portugal & Spain		D	(5.0-10.0)	"(1975)
" "	Great Britain polluted area	soft parts	D	(ND-50.0)30.0	"(1974)
" "	" clean area	"	D	(3.5-12.0)7.0	" (1974)
Limpet *Patelloidea saccharina laux*	Japan	shell		0.0	Tomita & Nakatsu (1968)
Scallop *Pecten albicans*	"	"		0.4	"

Scallop *Pecten circularis laquisulcatus*	W. United States		W	3.1	(1938) in Vinogradov (1953)
" " "	"		D	24.0	"
Scallop *Pecten fumatus*	Australia		W	0.1	(1939) in Vinogradov (1953)
Scallop *Pecten maximus*	Great Britain	mantle	A	70.0	(1937) "
" "	Scotland	soft parts	W	(0.4-4.7)	Topping (1973b)
" "	English Channel		W	1.1±0.55	Bryan (1973)
" "	"		D	8.9±4.5	"
" "	Irish Sea		W	0.93	Segar et al. (1971)
" "	"		D	3.3	"
Scallop *Pecten novae-zelandiae*	New Zealand	soft parts	W	(0.9-2.5)1.46	Nielsen & Nathan (1975)
" "	"	"	D	(2.0-14.0) 9.0	Brooks & Rumsby (1965)
" "	"	mantle	D	15.0	"
" "	"	gill	D	36.0	"
" "	"	muscle	D	1.0	"
" "	"	visceral mass	D	24.0	"
" "	"	intestine	D	131.0	"
" "	"	kidney	D	78.0	"
" "	"	foot	D	17.0	"

Scallop *Pecten novae-zelandiae*	New Zealand	gonad	D	9.0	Brooks & Rumsby (1965)
" "	"	shell	D	2.0	"
Green lipped mussel *Perna canaliculus*	"	soft parts	W	(0.2-28.0)1.8	Nielsen & Nathan (1975)
Snail *Physa sp.*	Illinois	"	D	22.01	Anderson (1977)
" "	Oklahoma	"	D	731.0±SD 514.6	Namminga et al. (1974)
" "	"	shell	D	97.9±SD 3.3	"
Pearl oyster *Pinctada martensii*	Japan	"		(0.5-0.7)	Tomita & Nakatsu (1968)
Pisania ferrea	"	"		(0.5-0.9)	"
Sea scallop *Placopecten magellanicus*	Delaware (ocean dump site)	soft parts	D	(4.01-12.65)7.31	Pesch et al. (1977)
Snail *Pleurocera sp.*	Illinois	"	D	10.70	Anderson (1977)
Moon shell *Polineces lewisii*	California	soft parts	D	(30.1-115.4)	Schwimer (1973)
" "	"	shell	D	(4.2-6.2)	"
Polypus bimaculatus	W. United States		W	31.5	(1938) in Vinogradov (1953)
" "	"		D	156.0	"
Common Pacific littleneck *Protothaca staminea*	California	soft parts	D	7.5±SD 0.6	Graham (1972)

Common Pacific littleneck Protothaca staminea	California	shell	D	11.5±SD 1.0	Graham (1972)
Clam Quadrula quadrula	Illinois			(1.1-3.6) 1.7	Mathis & Cummings (1973)
Clam Rangia cuneata	Texas	soft parts	D	(15.5-25.0)	Sims & Presley (1976)
Scaphander lignarius	Great Britain		W	5.0	(1937) in Vinogradov (1953)
Cuttlefish Sepia officinalis	France	embryo	D	3.8	Decleir et al. (1970)
Mussel Septifer bilocularis	Japan	shell		(0.2-0.4)	Tomita & Nakatsu (1968)
Mussel Septifer virgatus	"	"		(0.1-1.7)	"
Jackknife clam Solen marginatus	Spain & Portugal		D	34.0	Stenner & Nickless (1975)
Freshwater clam Sphaerium sp.	Illinois	soft parts	D	10.06	Anderson (1977)
Surf clam Spisula solida	Spain & Portugal		D	(76.0-505.0)	Stenner & Nickless (1975)
Surf clam Spisula solidissima	E. United States	muscle	W	(0.9-1.1)	Greig et al. (1977b)
Surf clam Spisula subtruncata	Spain & Portugal		D	66.0	Stenner & Nickless (1975)

Spider snail _Strombus pugilis_	Puerto Rico		W	(5.3-39.0) 17.0	Lowman et al. (1966)
" "	"		D	(11.0-40.0) 20.0	"
" "	"	shell	W	(0.32-39.0)16.0	"
" "	"	"	D	(1.4-39.0)17.0	"
" "	"	foot	W	(4.4-8.9)	"
" "	"	"	D	(20.0-40.0)	"
" "	"	muscle	W	(0.47-0.72)	"
" "	"	"	D	(1.8-3.1)	"
" "	"	soft parts	W	(140.0-160.0)	"
" "	"	"	D	(910.0-990.0)	"
" "	"	internal organs	W	(240.0-480.0)	"
" "	"	"	D	(1,500.0-2,000.0)	"
Freshwater clam _Strophites sp._	Illinois	soft parts	D	8.68	Anderson (1977)
Sunetta menstrualis	Japan	shell		(0.1-0.3)	Tomita & Nakatsu (1968)
Squid _Symplectoteuthis oualaniensis_	Pacific Ocean	liver		(1,520.0-1,940.0)1720 ±SD 151.0	Martin & Flegal (1975)
Littleneck clam _Tapes japonica_	Japan	shell		1.0	Tomita & Nakatsu (1968)
Littleneck clam _Tapes semidecussata_	California	soft parts	D	19.2±SD 7.0	Graham (1972)

Littleneck clam *Tapes semidecussata*	California	shell	D	19.2±SD 7.0	Graham (1972)
Black tegula *Tegula funebralis*	"	soft parts	D	(14.0-175.0)	"
" "	"	shell	D	(6.8-21.4)	"
Speckled tegula *Tegula gallina*	W. United States		W	6.1	(1938) in Vinogradov (1953)
" "	"		D	20.3	"
Tegula *Tegula viridula viligulata*	"		W	(3.1-6.1)	"
" " "	"		D	(23.0-59.3)	"
Dog winkle *Thais chocolata*	Peru			(0.57-1.25) 0.9	Echegaray (1974)
Dog winkle *Thais clavigera*	Japan	shell		(0.3-1.4)	Tomita & Nakatsu (1968)
Emarginate dogwinkle *Thais emarginata*	California	body	D	571.0±5.0	Graham (1972)
" "	"	shell	D	(5.9-8.2)	"
Atlantic dogwinkle *Thais lapillus* (=Purpura lapillus)	Great Britain		A	600.0	(1937) in Vinogradov (1953)
" "	Norway		D	(27.0-170.0)	Stenner & Nickless (1974)
Thliostyra albicilla	Japan	shell		(0.1-0.3)	Tomita & Nakatsu (1968)
Pismo clam *Tivela crassatelloides*	W. United States		W	(2.1-2.3)	(1938) in Vinogradov (1953)

Pismo clam Tivela crassatelloides	W. United States		D	(11.9-13.9)	(1938) in Vinogradov (1953)
Top shell Trochus sacellum rota	Japan	shell		(0.2-0.6)	Tomita & Nakatsu (1968)
Turban Turbo stenogyrus	"	"		(0.0-0.3)	"
Umbonium giganteum	"	"		(0.3-0.4)	"
Venus striatula	Spain & Portugal		D	(30.0-170.0)	Stenner & Nickless (1975)

COPPER IN ARTHROPODA (1)

Species	Locality	Tissue	Analysis (2) PPM		Authority
CRUSTACEA					
Copepod *Acartia clausi*	Greece	whole	D	(34.0-107.0) 55.3	Zafiropoulos & Grimanis (1977)
Isopod *Ascellus sp.*	Illinois	"	D	99.16	Anderson (1977)
Crab *Atelecyclus septemdentatus*	Great Britain	"	W	10.0	Bryan (1968)
Crayfish *Austropotamobius pallipes*	"	"	W	17.0	"
Acorn barnacle *Balanus amphitrites*	Spain & Portugal		D	(550.0-600.0)	Stenner & Nickless (1975)
Acorn barnacle *Balanus amphitrites albicostratus*	Japan	shell		(2.5-16.4)	Tomita & Nakatsu (1968)

---

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Acorn barnacle *Balanus amphitrites krugeri*	Japan	shell		3.8	Tomita & Nakatsu (1968)
Common barnacle *Balanus balanoides*	Wales	soft parts	D	(0.1-0.7)	Ireland (1974)
Acorn barnacle *Balanus perforatus*	Spain & Portugal		D	(8.0-8.5)	Stenner & Nickless (1975)
Barnacle *Balanus tintinnabulum volcans*	Japan	shell		(0.4-3.2)	Tomita & Nakatsu (1968)
Copepod *Calanus finmarchicus*	N.W. Atlantic		A	1350.0	Nicholls et al. (1959)
Ghost shrimp *Callianassa californiensis*	British Columbia		Cu	variable	Parsons et al. (1973)
" "	California		D	(207.7-216.4)	Emerson et al. (1975)
Blue crab *Callinectes sapidus*	Florida		W	17.1	Ogden et al. (1974)
" "	N.W. Atlantic		D	(18.0-45.0) 34.0	Windom (1972)
" "	"		W	(3.6-9.0) 6.8	"
" "	Texas	whole	D	54.0	Sims & Presley (1976)
Crayfish *Cambarus sp.*	Illinois	whole	D	94.76	Anderson (1977)

Crab Cancer anthonyi	California	muscle	W	(3-10)	Fowler et al. (1975)
Rock crab Cancer irroratus	New York Bight	immature	D	(2.9-54.4)	Greig et al. (1977a)
" "	"	adult	W	(14.8-25.4)	" (1977b)
" "	Long Island	"	W	13.0	" "
Crab Cancer magister	British Columbia sewer outfall		D	(38.0-150.0)	Parsons et al. (1973)
" "	" non-contaminated		D	(22.0-68.0)	"
Crab Cancer pagurus	Great Britain	whole	W	20.0	Bryan (1968)
" "	"	"	W	6.80	Wright (1976)
" "	Scotland		W	(4.6-32.8) 14.3	Topping (1973b)
Shore crab Carcinus maenas	Great Britain	"	W	22.0	Bryan (1968)
" "			D	40.6	(1943) in Vinogradov (1953)
" "	"	exoskeleton	W	8.7±SD 3.60	Wright (1976)
" "	"	muscle	W	6.0±SD 3.0	"
" "	"	hepato-pancreas	W	22.9±SD 5.60	"
" "	Norway		D	(1.7-90.0)	Stenner & Nickless (1974)
" "	Great Britain		W	(13.5-41.0)	Wharfe & Van Den Broek (1977)

Copepod *Centropagus hamatus*	N.W. Atlantic		A	600.0	Nicholls et al. (1959)
Copepod *Centropagus typicus*	"		A	600.0	"
Acorn barnacle *Chthamalus stellatus*	Spain & Portugal		D	(6.3-11.3)	Stenner & Nickless (1975)
Stridulating hermit crab *Clibanarius strigimanus*	Tasmania		W	15.8	Eustace (1974)
Decapod *Corystes cassivelaunus*	Great Britain	whole	W	22.0	Bryan (1968)
Sand shrimp *Crangon vulgaris*	"	"	W	32.0	"
" "	"	exo-skeleton	W	7.0	Wright (1976)
" "	"	muscle	W	25.9	"
" "		Cu is stored as granules in hepatopancreas			Djangmah (1970)
Hermit crab *Eupagurus bernhardus*	"	whole	W	25.0	Bryan (1968)
" "	Spain & Portugal		D	(110.0-290.0)	Stenner & Nickless (1975)
Euphausid *Euphausiacea*	California	whole	D	(7.5-21.3) 15.6	Knauer & Martin (1973)
Euphausid *Euphausia krohnii*	N.W. Atlantic	"	A	600.0	Nicholls et al. (1959)
Euphausids	Oregon		D	(8.5-36.0) 19.6	Robertson et al. (1972)
Lobster *Galathea squamifera*	Great Britain	whole	W	29.0	Bryan (1968)

Beach flea *Gammarus sp.*	Illinois	whole	D	70.4	Anderson (1977)
Red crab *Geryon quinquedens*	Middle Atlantic Bight	muscle	W	8.3	Greig et al. (1976)
" "	"	gill	W	31.3	"
Lobster *Homarus americanus*		liver	W	25.1	(1931) in Vinogradov (1953)
" "		egg	W	83.0	"
" "		gonad	W	21.0	"
" "	N.W. Atlantic		D	(3.0-54.0) 19.6	Windom (1972)
Lobster *Homarus vulgaris*	Great Britain	whole	W	33.0	Bryan (1967)
" "	"	blood	W	(6.0-59.0) 32.0	"
" "	"	urine	W	(0.0-9.3)1.6	"
" "	"	stomach fluid	W	(0.0-30.0) 10.0	"
" "	"	hepato-pancreas	W	(21.0-690.0) 335.0	"
" "	"	muscle	W	(0.8-8.0)3.9	"
" "	"	gill	W	(3.0-42.0) 26.0	"
" "	"	shell	W	(0.0-6.7)2.5	"
" "	"	vas deferens	W	(0.8-4.1)1.2	"
" "	"	ovary	W	(48.0-54.0) 50.0	"
" "	"	whole	W	(16.0-18.0)17.0	"

Lobster *Homarus vulgaris*	Scotland	tail	D	(6.0-18.0) 10.3 (calc. from ash)	Topping (1973b)
Goose barnacle *Lepas anatifera*			D	0.08	(1943) in Vinogradov (1953)
Freshwater prawn *Macrobrachium rosenbergii*	Thailand	muscle	W	7.8	Huschenbeth & Harms (1975)
Crab *Maia squinado*	Great Britain		W	25.0	Bryan (1968)
" "	Spain & Portugal	brown muscle	D	61.0	Stenner & Nickless (1975)
" "	"	white muscle, shell	D	19.0	"
" "	"	leg muscle	D	95.0	"
Stone crab *Menippe mercenaria*	Florida		W	(0.2-26.7)	Ogden et al. (1974)
Gooseneck barnacle *Mitella mitella*				(0.0-0.5)	Tomita & Nakatsu (1968)
Crab *Mursia gaudichaudi*	California	gonad	W	(4.28-54.7) 23.46	Fowler et al. (1975)
" "	"	digestive gland	W	(13.9-194.5)88.67	"
" "	"	muscle	W	(12.3-20.8)15.77	"
Lobster *Nephrops norvegicus*	Spain & Portugal	"	D	(41.0-48.0)	Stenner & Nickless (1975)
" "	"	head	D	(110.0-205.0)	"

Beach hoppers *Orchestoidea california*	California	whole	D	(10.0-75.0)	Bender (1975)
Beach hoppers *Orchestoidea corniculata*	"	"	D	(10.0-75.0)	"
Crayfish *Orconectes sp.*	Illinois	"	D	86.61	Anderson (1977)
Shrimp *Palaemon serratus*	Great Britain	whole	W	30.0	Bryan (1968)
Shrimp *Palaemon squilla*	"	"	W	31.0	"
Shrimp *Palaemonetes varians*	"	"	W	32.0	"
Shrimp *Pandalus jordani*	Oregon		D	(5.4-26.0) 18.8	Cutshall & Holton (1972)
" "	"	muscle	D	(11.3-18.2) 14.3	"
" "	"	"	D	(6.7-40.6) 18.2	Robertson et al. (1972)
Spiny lobster *Panulirus argus*	N.W. Atlantic		W	3.24	Windom (1972)
" "	"		D	12.0	"
Spiny lobster *Panulirus sp.*	Puerto Rico		W	(11.0-18.0) 15.2	Lowman et al. (1967)
" "	"		D	(28.0-78.0) 51.3	"
" "	Florida		W	(12.0-32.0)	Ogden et al. (1974)
Brown shrimp *Penaeus aztecus*	Texas	whole	D	34.0	Sims & Presley (1976)

Brown shrimp *Penaeus aztecus*	Texas	muscle	D	(18.5-28.5)	Horowitz & Presley (1977)
" "	"	exo-skeleton	D	(21.5-51.7) 32.4	"
" "	"	viscera	D	(65.0-260.0) 173.0	"
Shrimp *Penaeus aztecus* & *P. duorarum*	Gulf of Mexico	whole	D	(38.0-246.0) 104.0	Knauer et al. (1971)
" " "	"	exo-skeleton	D	(11.0-86.0) 38.0	"
Shrimp *Penaeus brasiliensis*		muscle	W	3.3	Nilson & Coulson (1939)
Blueleg king prawn *Penaeus latisulcatus*	Thailand		W	3.4	Huschenbeth & Harms (1975)
Prawn *Penaeus merguiensis*	"		W	2.8	"
Tiger prawn *Penaeus monodon*	"		W	(4.7-6.2)	"
Green tiger prawn *Penaeus semisulcatus*	"		W	3.4	"
White shrimp *Penaeus setiferus*	S.E. United States	whole	D	17.0	Windom (1972)
Crab *Pilumnus hirtellus*	Great Britain	"	W	28.0	Bryan (1968)
" "	"	blood	W	176.0	"
" "	"	hepato-pancreas	W	65.0	"

Copepod Pleuromamma xiphias	Puerto Rico	whole	A	(30.0-270.0) 115.0	Martin (1970)
Lobster Porcellana platycheles	Great Britain	"	W	27.0	Bryan (1968)
Sowbug Porcellio scaber		hepato-pancreas	D	14,300 (1.43%)	Weiser (1961)
Crab Portunus depurator	Great Britain	whole	W	18.0	Bryan (1968)
Crab Portunus puber		"	W	21.0	"
Crayfish Potamobius fluviatilis	Pskov		W	10.0	(1931) in Vinogradov (1953)
Crayfish Procambarus sp.	Illinois	whole	D	58.10	Anderson (1977)
Isopod Tracheoniscus rathkei	Austria		D	(74.0-538.0)	Weiser et al. (1975)
Isopod Tylos punctatus	California	hepato-pancreas	D	200.0	Hayes (1970)
" "	"	whole	D	(13.0-59.0)	"
Copepod Undinula vulgaris	Puerto Rico	"	A	(50.0-240.0) 132.0	Martin (1970)
Crab Xantho incisus	Great Britain	"	W	20.0	Bryan (1968)
Shrimp Xiphopenaeus kroyeri	Puerto Rico		W	(9.0-40.0) 18.15	Lowman et al. (1967)
" "	"		D	(28.0-78.0) 51.3	"

INSECTA					
Damselfly *Amphiagrion sp.*	Illinois	nymph	D	26.52	Anderson (1977)
Dragonfly *Anax sp.*	"	"	D	27.79	"
Damselfly *Argia sp.*	"	"	D	74.21	"
Mayfly *Baetis sp.*	"	"	D	12.12	"
Giant water bug *Belastoma sp.*	"	adult	D	18.50	"
Caddis fly *Cheumatopsyche sp.*	"		D	14.10	"
Midge *Chironomidae*	"	larva	D	13.05	"
Beach fly *Coelopa vanduzeei*	California		D	(30.0-130.0)	Bender (1975)
Fruit fly *Drosophila ananassae*	New York	larva	D	6.0	Poulson et al. (1952)
Fruit fly *Drosophila melanogaster*	"	"	D	14.0	"
Fruit fly *Drosophila repleta*	"	"	D	14.0	"
Beach fly *Fucellia rufitibia*	California		D	(30.0-130.0)	Bender (1975)
Water scavenger beetle *Halophorus sp.*	Illinois	whole adult	D	16.22	Anderson (1977)
Mayfly *Hexagenia sp.*	"	nymph	D	11.29	"
Caddis fly *Hydropsyche sp.*	"	larva	D	11.88	"

Backswimmer *Notonecta sp.*	Illinois	adult	D	20.09	Anderson (1977)
Mayfly *Potamanthus sp.*	"	nymph	D	12.96	"
Water scorpion *Ranatra sp.*	"	adult	D	15.75	"
Waterbug *Sigara sp.*	"	"	D	19.47	"
Blackfly *Simulium sp.*	"	larva	D	14.0	"
Mayfly *Stenonema sp.*	"	nymph	D	17.55	"

COPPER IN LOWER INVERTEBRATES (1)

Species	Locality	Tissue	Analysis PPM (2)	Authority
PORIFERA				
Sponge		hard	16.0	Bowen (1966)
Halichondra sp.	Sweden		D 34.0	Noddack & Noddack (1940)
Brittle cup sponge	Puerto Rico		W (2.3-5.0) 3.5	Lowman et al. (1966)
" " "	"		D (16.0-31.0) 23.0	"
Pliable cup sponge	"		W (0.99-3.7)2.6	"
" " "	"		D (8.5-16.0)13.0	"
COELENTERATA				
Coral *Anomocora fecunda*	Jamaica		D 6.0	Livingston & Thompson (1971)
Coral *Bathycyanthus maculatus*	"		D 4.0	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Coral *Caryophyllia clavus*	Jamaica	D	10.0	Livingston & Thompson (1971)
Coral *Caryophyllia communis*	"	D	3.0	"
Cerianthus sp.	California	D	26.4	Emerson et al. (1975)
Coral *Cladocora patriarca*	Jamaica	D	4.0	Livingston & Thompson (1971)
Jellyfish *Cyanea capillata*	Sweden	A	13.0	Noddack & Noddack (1940)
" "	"	D	68.0	"
" "	New England	D	8.2	Nicholls et al. (1959)
Coral *Dendrophyllia sp.*	Jamaica	D	7.0	Livingston & Thompson (1971)
Coral *Desmophyllum cristogalli*	"	D	(9.0-11.0)	"
Coral *Eusmilia fastigiata*		D	(16.0-17.0)	Lowman et al. (1966)
Coral *Madracis asperula*	"	D	4.0	Livingston & Thompson (1971)
Coral *Madracis mirabilis*	"	D	(<2.0-5.0)	"
Coral *Madracis pharensis*	"	D	<2.0	"
Coral *Meandrina areolata*	"	D	1.0	"

Coral Meandrina braziliensis	Jamaica		D	(5.0-8.0)	Livingston & Thompson (1971)
Coral Meandrina neandrites	Puerto Rico		W	(14.0-33.0) 22.0	Lowman et al. (1966)
Sea anemone Metridium dianthus	Sweden		D	32.0	Noddack & Noddack (1940)
Coral Montastrea annularis	Jamaica		D	(2.0-11.0)	Livingston & Thompson (1971)
Coral Phyllangia americana	"		D	20.0	"
Coral Porites porites	"		D	(2.0-7.0)	"
Coral Scolmia cubensis	"		D	(<2.0-16.0)	"
Coral Solenosmilia variabilis	"		D	(<2.0-14.0)	"
Coral Trochocyanthus sp.	"		D	9.0	"
CTENOPHORA					
Sea comb Beroe cucumis	New England		A	700.0	Nicholls et al. (1959)
"Comb jellyfish"	New York Bight		D	(<1.6-9.7)	Greig et al. (1977a)
CHAETOGNATHA					
Arrow worm Sagitta elegans	New England		A	1,100.0	Nicholls et al. (1959)
TUNICATA					
Tunicate Ascidia sp.		test	D	11.0	(1931) in Vinogradov (1953)

Tunicate Ascidia mentula		without mantle	D	(25.0-400.0)	(1943) in Vinogradov (1953)
Tunicate Ascidiacea sp.	Tasmania		W	8.3	Eustace (1974)
Sea squirt Ciona intestinalis	Sweden		D	13.0	Noddack & Noddack (1940)
" "	California	tunic	D	54.8	Emerson et al. (1975)
" "	"	internal organs	D	72.7	"
Tunicate Salpa fusiformis	New England		A	500.0	Nicholls et al. (1959)
ECHINODERMATA					
Sea urchin Arbacia lixula	Italy Bay of Naples		D	16.6±SE 3.5	Sheppard & Bellamy (1974)
" "	" Marine park		D	7.0±SE 0.4	"
Sea star Asterias glacialis			D	4.7	(1943) in Vinogradov (1953)
Sea star Asterias rubens	Sweden		D	18.0	Noddack & Noddack (1940)
" "	Spain & Portugal		D	(6.0-8.0)	Stenner & Nickless (1975)
Sea urchin Brissopsis lyrifera	Sweden		D	18.0	Noddack & Noddack (1940)

Red starfish *Coscinasterias calamaria*	Tasmania		W	10.4	Eustace (1974)
Sea urchin *Paracentrotus lividus*			D	1.3	(1943) in Vinogradov (1953)
Mud starfish *Patiriella regularis*	Tasmania		W	31.4	Eustace (1974)
Sea star *Pisaster brevispinus*	California	ray	D	(8.8-15.8)	Schwimer (1973)
" "	"	gonad	D	(2.1-10.3)	"
" "	"	stomach	D	(4.5-39.6)	"
" "	"	hepatic caecum	D	(18.1-38.0)	"
Sea cucumber *Stichopus tremulus*	Sweden		D	17.0	Noddack & Noddack (1940)
ANNELIDA					
Bonellia viridis		proboscis	D	2.65	(1935) in Vinogradov (1953)
" "		viscera	D	3.81	"
" "		body	D	4.41	"
Polychaete worm *Cirriformia luxuriosa*	California		D	(48.2-119.6)	Emerson et al. (1975)
Worm leech *Herpobdella sp.*	Illinois	whole	D	16.83	Anderson (1977)
Tubificid worm *Limnodrilus hoffmeisteri*	"			(10.0-42.0) 23.0	Mathis & Cummings (1973)

Lineus longissimus			A	500.0	(1937) in Vinogradov (1953)
Lumbrineris sp.	California		D	29.6	Emerson et al. (1975)
Shimmy worm Nephtys sp.			A	300.0	(1937) in Vinogradov (1953)
Ragworm, sand worm Nereis diversicolor	Great Britain		W	(9.0-22.0)	Bryan (1971)
" "	"		W	(1.6-5.1)	Wharfe & Van Den Broek (1977)
Sand worm Nereis virens	"	gut	D	(15.0-19.0)	Raymont & Shields (1963)
" "	"	body wall	D	(25.0-32.0)	"
Polychaete worm Notomastus tenuis	California		D	46.1	Emerson et al. (1975)
Turtle leech Placobdella sp.	Illinois	whole	D	7.59	Anderson (1977)
Polychaete worm Sigambra tentacula	California		D	(124.1-149.9)	Emerson et al. (1975)
Tubificid worm Tubifex tubifex	Illinois			(10.0-42.0) 23.0	Mathis & Cummings (1973)
"Earthworm"				(25.1-48.7)	Nillson (1969)

COPPER IN HIGHER PLANTS (1)

Species	Locality	Tissue	Analysis PPM (2)		Authority
Norway maple *Acer platanoides*	Connecticut	leaf	D	(0.5-31.0) 9.0±SE 0.9	Smith (1973)
" "	"	twig	D	(7.0-22.0) 10.0±SE 0.6	"
Red maple *Acer rubrum*	Ontario dist. from smelter (km):				Hutchinson & Whitby (1974)
" "	" " 1.6	leaf	D	37.0	"
" "	" " 2.1	"	D	26.0	"
" "	" " 7.4	"	D	31.0	"
" "	" " 10.4	"	D	19.0	"
" "	" " 13.5	"	D	20.0	"
" "	" " 19.3	"	D	28.0	"
" "	" " 28.9	"	D	16.0	"

---

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ±Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Sugar maple *Acer saccharum*	New Hampshire	twig & leaf	D	(5.0-17.0)	Smith (1973)
" "	Connecticut	leaf	D	(6.0-8.0) 6.0±SE 0.4	"
" "	"	twig	D	(7.0-14.0) 10.0±SE 0.9	"
Maple *Acer sp.*	Hungary	leaf	D	6.8	Tolgyesi & Bencze (1970)
Mint *Acrocephalus polyneurus*	Katanga		Local Cu indicator		Cannon (1971)
Mint *Acrocephalus roberti*	"		Universal Cu indicator		"
Copper plant, mint *Aeolanthus biformifolius*	Zaire	basal leaf	D	(2,150-2,600)	Malaise et al. (1978)
" "	"	flower stem	D	(2,150-3,500)	"
" "	"	corm	D	(2,600-13,700)	"
" "	"	whole	D	(10,000-13,700)	"
Horse chestnut *Aesculus hippocastanum*	Great Britain	bark	D	(22.0-48.0)	Barnes et al. (1976)
Red top grass *Agrostis alba*	Czechoslovakia		Local Cu indicator		Cannon (1971)
Onion *Allium cepa*	East Asia	bulb	W	0.8	Leung (1973)
" "	Ontario	leaf	D	(4.3-6.5)	Hutchinson et al. (1974)
" "	"	bulb	D	3.7	"

Onion *Allium cepa*	Ontario	root	D	(19.5-24.1)	Hutchinson et al. (1974)
Leek *Allium porrum*	East Asia		W	1.0	Leung (1973)
Alder *Alnus sp.*	Hungary	leaf	D	11.0	Tolgyesi & Bencze (1970)
Amaranthus *Amaranthus mangostanus*	East Asia	leaf & stem	W	3.7	Leung (1973)
Pineapple *Ananas comosus*	"	fruit	W	3.8	"
Waterweed *Anacharis canadensis*	Ontario	whole	W	(5.0-175.0)	Hutchinson et al. (1975)
Composite *Anisopappus hoffmanianus*	Katanga		Local indicator of Cu deposits		Cannon (1971)
Custard apple *Anona reticulata*	East Asia	fruit	W	1.5	Leung (1973)
Celery *Apium graveolens dulce*	Ontario	leaf	D	(5.5-7.9)	Hutchinson et al. (1974)
" " "	"	root	D	(12.6-19.7)	"
Celery, Chinese *Apium graveolens*	East Asia	stalk	W	0.9	Leung (1973)
Peanut *Arachis hypogaea*	"	nut	W	4.2	"
" "	Lower Dahomey		D	(5.0-6.3)	Cresta et al. (1975)
Common thrift *Armeria maritima*	Scotland		Used for prospecting for Cu		Cannon (1971)

Horseradish *Armoracia lapathifolia*	East Asia	root	W	1.4	Leung (1973)
Sagebrush *Artemisia tridentata*	Nevada	stem	D	(12.0-14.0)	Wallace & Romney (1972)
" "	"	leaf	D	(13.0-14.0)	"
Ascolepis metallorum	Zaire	"	D	1,200	Malaisse et al. (1978)
Asparagus *Asparagus officinalis*	East Asia	shoot	W	1.5	Leung (1973)
Locoweed *Astragalus declinatus*	Russia		Economic indicator of Cu deposits		Cannon (1971)
Locoweed *Astragalus lentiginosus*	Nevada	stem	D	5.0	Wallace & Romney (1972)
" "	"	leaf	D	5.0	"
Saltbush *Atriplex canescens*	"	"	D	5.0	"
Saltbush *Atriplex confertifolia*	"	"	D	(2.0-119.0)	"
Saltbush *Atriplex hymenelytra*	"	"	D	(3.0-6.0)	"
Saltbush *Atriplex polycarpa*	"	"	D	4.0	"
" "	"	stem	D	11.0	"
Oats *Avena sativa*	East Asia	grain	W	2.3	Leung (1973)
" "	United States	"		(4.0-51.0) 11.0	Beeson (1941)
" "	"	straw		(3.0-54.0) 11.0	"
" "	Scotland	grain	D	(0.003-0.03)	Burridge (1970)

Bamboo *Bambusa spp.*	East Asia	shoot	W	1.9	Leung (1973)
Becium aureoviride	Zaire	leaf	D	210.0	Malaisse et al. (1978)
Becium homblei (=*Ocimum homblei*)	Zambia	"	D	324.0	"
" "	"	"	D	3000.0	Peterson (1971)
" "	Rhodesia	"	A	(1000-4000)	Cannon (1971)
Tawa *Beilschmiedia tawa*	New Zealand	"	A	132.0±SD 181.0	Timperley et al. (1970)
Beet *Beta vulgaris*	United States	root		(6.0-27.0) 10.0	Beeson (1941)
" "	Great Britain & North America	"	A	80.0	Warren (1972b)
" "		"	D	7.0	"
" "		"	W	0.8	"
" "			A	(10-190)80	"(1972a)
Bog birch *Betula glandulosa*	Alaska	leaf	D	5.1	Kubota et al. (1970)
" "	"	twig	D	4.6	"
Paper birch *Betula papyrifera*	"	leaf	D	5.4	Kubota et al. (1970)
" "	"	twig	D	4.5	"
" "	Ontario Dist. from smelter (mi):				Hutchinson & Whitby (1974)
" "	" " 1.0		D	94.5	"
" "	" " 4.6		D	36.8	"

Paper birch *Betula papyrifera*	Ontario Dist. from smelter (mi):				Hutchinson & Whitby (1974)
" "	" " 6.5		D	38.5	"
" "	" " 8.4		D	24.5	"
" "	" " 12.0		D	31.5	"
" "	" " 18.0		D	14.0	"
" "	" " 31.0		D	14.0	"
Blepharis cuangensis	Katanga		Indicator of economic Cu deposits		Cannon (1971)
Watershield *Brasenia schreberi*	Pennsylvania	leaf	D	48.6	Adams et al. (1973)
Indian mustard *Brassica juncea*	East Asia	"	W	2.3	Leung (1973)
Kale *Brassica oleracea acephala*				(24.0-56.0) 36.0	Beeson (1941)
Cauliflower *Brassica oleracea botrytis*	"	head	W	1.4	Leung (1973)
" " "	Ontario	leaf	D	(2.4-3.9)	Hutchinson et al. (1974)
" " "	"	head	D	4.5	"
" " "	"	root	D	(8.6-15.5)	"
Cabbage *Brassica oleracea capitata*	East Asia	leaf		1.6	Leung (1973)
" " "	Ontario	"	D	(2.9-4.0)	Hutchinson et al. (1974)
" " "	"	root	D	(7.7-23.0)	"

Cabbage *Brassica oleracea capitata*	Great Britain & North America	root	A	40.0	Warren (1972b)
" " "	"	"	D	4.0	"
" " "	"	"	W	0.25	"
" "			A	(7-100)60	" (1972a)
" "	United States	"		(4.0-28.0) 14.0	Beeson (1941)
Turnip *Brassica rapa*	East Asia	leaf	W	0.7	Leung (1973)
Mustard *Brassica sp.*	"	seed	D	3.1	"
Bulletwood *Bulbostylis barbata*	W. Queensland		Used for Cu prospecting		Cannon (1971)
Pigeon pea *Cajanus cajan*	East Asia	"	D	7.1	Leung (1973)
Pepper *Capsicum annuum*	"	fruit	W	1.0	"
" "	Missouri	"		(10.3-11.5)	Missouri Univ. (1972)
Papaya *Carica papaya*	East Asia	"	W	0.14	Leung (1973)
" "	"	" unripe	W	1.01	"
Hornbeam *Carpinus sp.*	Hungary	leaf	D	9.0	Tolgyesi & Bencze (1970)
Pecan *Carya illinoiensis*		"	D	(21.0-28.0)	Gauch (1972)
Cassinia *Cassinia vauvilliersii*	New Zealand	"	A	(86.0-130.0)	Lyon et al. (1971)
Rabbit brush *Chrysothamnus viscidiflorus*	Nevada	"	D	18.0	Wallace & Romney (1972)

Rabbit brush Chrysothamnus viscidiflorus	Nevada	stem	D	15.0	Wallace & Romney (1972)
Coontail Ceratophyllum demersum	Pennsylvania	whole	D	(60.0-85.0)	Adams et al. (1973)
Chickpea Cicer arietinum	East Asia	seed	D	9.9	Leung (1973)
European water hemlock Cicuta virosa	Russia	Economic indicator of Cu deposits			Cannon (1971)
Tangerine Citrus reticulata	East Asia	fruit	W	0.56	Leung (1973)
Orange Citrus sinensis	United States	"		(3.0-22.0) 10.0	Beeson (1941)
Watermelon Citrullus vulgaris	East Asia	"	W	0.70	Leung (1973)
Yellow clintonia Clintonia borealis	Quebec (near copper smelter)	leaf	D	(2.0-245.0)	LeBlanc et al. (1974)
Coconut Cocos nucifera	East Asia	kernel	W	0.5	Leung (1973)
Blackbrush Coleogyne ramosissima	Nevada	leaf	D	(1.0-26.0)	Wallace & Romney (1972)
" "	"	stem	D	(3.0-24.0)	"
Taro, Chinese Colocasia esculenta	East Asia	tuber	W	7.93	Leung (1973)
Sweet fern Comptonia peregrina	Ontario (near smelter)	leaf	D	(12.5-110.9)	Hutchinson et al. (1974)
Coriander Coriandrum sativum	East Asia	"	W	1.8	Leung (1973)
Dwarf dogwood Cornus canadensis	Ontario (near smelter)	"	D	(5.4-30.4)	Hutchinson & Whitby (1974)

Dogwood *Cornus sp.*	Hungary	leaf	D	5.1	Tolgyesi & Bencze (1970)
Hawthorn *Crataegus sp.*	"	"	D	6.5	"
Crotalaria peschiana	Zaire	"	D	268.0	Malaisse et al. (1978)
Cucumber *Cucumis sativus*	East Asia	fruit	W	0.9	Leung (1973)
Pumpkin *Cucurbita pepo*	"	"	W	2.1	"
Dodder *Cuscuta nevadensis*	Nevada	whole	D	(3.0-4.0)	Wallace & Romney (1972)
Carrot *Daucus carota*	Great Britain & North America	root	A	70.0	Warren (1972b)
" "	"	"	D	5.0	"
" "	"	"	W	0.5	"
" "	"	"	A	(8-180)70	"(1972a)
" "	United States	"		(7.0-18.0) 11.0	Beeson (1941)
" "	Ontario	leaf	D	(5.7-6.9)	Hutchinson et al. (1974)
" "	"	root	D	(4.9-11.9)	"
" "	East Asia	"	W	0.8	Leung (1973)
Wavy hair grass *Deschampsia flexuosa*	Sweden	leaf	D	45.0	Tyler (1972)
" "	"	leaf litter	D	70.0	"
" "	"	root & rhizome	D	70.0	"

Wavy hair grass Deschampsia flexuosa	Ontario Dist. from smelter (km):				Hutchinson & Whitby (1973)
" "	" " 1.7		D	726.0	"
" "	" " 2.1		D	121.0	"
" "	" " 7.4		D	103.0	"
" "	" " 10.4		D	11.0	"
" "	" " 13.4		D	66.0	"
" "	" " 20.4		D	18.0	"
" "	" " 52.7		D	13.0	"
Descurium pinnata	Nevada	top	D	10.0	Wallace & Romney (1972)
Dulichium Dulichium arundinaceum	Pennsylvania	whole	D	(25.0-60.0)	Adams et al. (1973)
Needle spike rush Eleocharis acicularis	"	"	D	(60.0-80.0)	"
Blunt spike rush Eleocharis obtusa	"	"	D	55.0	"
Creeping spike rush Eleocharis palustris	"	"	D	(30.0-60.0)	"
Millet Eleusine coracona	East Asia	grain	D	4.4	Leung (1973)
Water weed Elodea canadensis	Pennsylvania	whole	D	(15.0-50.0)	Adams et al. (1973)
Water weed Elodea nuttallii	"	"	D	(20.0-40.0)	"
Water weed Elodea sp.	Italy	"	A	189.0±SE 18.0	Merlini et al. (1971)
Mint Elscholtzia haichowensis	China	leaf	A	6,580	Cannon (1971)

Mint *Elscholtzia haichowensis*	China	root	A	17,240	Cannon (1971)
" "	"	Used as economic indicator of Cu			"
Mormon tea *Ephedra funerea*	Nevada	shoot	D	(9.0-17.0)	Wallace & Romney (1972)
Mormon tea *Ephedra nevadensis*	"	"	D	(4.0-22.0)	"
Mormon tea *Ephedra torreyana*	"	"	D	(3.0-5.0)	"
Mormon tea *Ephedra viridis*	"	"	D	(2.0-10.0)	"
Fireweed *Epilobium augustifolium*	Alaska	leaf & stem	D	6.2	Kubota et al. (1970)
Horsetail *Equisetum palustre*	Ontario	root	W	(18.0-218.0)	Hutchinson et al. (1975)
" "	"	stem	W	(6.0-28.0)	"
Horsetail *Equisetum sp.*	" Dist. from smelter (mi):				Hutchinson & Whitby (1974)
" "	" " 1.0		D	(30.4-162.9)	"
" "	" " 1.4		D	(21.5-80.5)	"
" "	" " 4.6		D	17.9	"
" "	" " 6.5		D	16.1	"
" "	" " 12.0		D	(10.7-35.8)	"
" "	Alaska	top	D	4.8±SD 3.0	Kubota et al. (1970)
Cotton grass *Eriophorum sp.*	"	"	D	4.4	"

Eriospermum abyssinicum	Katanga	Used for locating Cu deposits			Cannon (1971)
California poppy *Escholtzia mexicana*	Arizona	Used as economic indicator of Cu			"
Winterfat *Eurotia lanata*	Nevada	leaf	D	(2.0-65.0)	Wallace & Romney (1972)
Spindleberry *Euonymus sp.*	Hungary	"	D	6.2	Tolgyesi & Bencze (1970)
Beech *Fagus sp.*	"	"	D	8.0	"
Red fescue *Festuca rubra*	Wales, Dist. from smelter (km):				Goodman & Roberts (1971)
" "	" " 1.5		D	15.0	"
" "	" " 3.0		D	15.0	"
" "	" " 5.0		D	13.0	"
" "	" " 6.0		D	26.0	"
" "	" " 6.5		D	9.0	"
" "	" " 16.0		D	12.0	"
" "	" " 18.0	(upwind)	D	5.0	"
Fimbristylus *Fimbristylus exilis*	Rhodesia	leaf	D	420.0	Malaisse et al. (1978)
Burroburh *Franseria dumosa*	Nevada	"	D	(3.0-58.0)	Wallace & Romney (1972)
" "	"	stem	D	(4.0-30.0)	"
Ash *Fraxinus sp.*	Hungary	leaf	D	5.2	Tolgyesi & Bencze (1970)

Soybean *Glycine max*	East Asia	seed	D	3.0	Leung (1973)
" "	United States	plant		(4.0-12.0) 9.0	Beeson (1941)
Spiny hop sage *Grayia spinosa*	Nevada	leaf	D	(3.0-32.0)	Wallace & Romney (1972)
Kachim *Gypsophila patrini*	Russia		Used for locating economic deposits of Cu		Cannon (1971)
Haumaniastrum robertii	Zaire	leaf	D	(662-1,960)	Malaisse et al. (1978)
Hebe odora	New Zealand	"	A	(68.0-163.0)	Lyon et al. (1971)
Barley *Hordeum vulgare*	East Asia	grain	D	2.55	Leung (1973)
" "	Washington	"	D	(2.4-3.0)	Haller et al. (1969)
" "	United States	"		(6.0-41.0) 16.0	Beeson (1941)
Okra *Hybiscus esculentus*	East Asia	fruit	W	0.9	Leung (1973)
Saint John's wort *Hypericum adpressum*	Pennsylvania	whole	D	32.3	Adams et al. (1973)
Mint *Icomum lineare*	Katanga		Cu indicator plant		Cannon (1971)
Indigofera dyeri	Rhodesia	leaf	D	890	Malaisse et al. (1978)
Sweet potato *Ipomea batatas*	East Asia	root	W	2.6	Leung (1973)
Quillwort *Isoetes riparia*	Pennsylvania	whole	D	53.6	Adams et al. (1973)

Slender rush *Juncus effusus*	Pennsylvania	whole	D	(58.6-64.3)	Adams et al. (1973)
Juniper *Juniperus osteosperma*	Nevada	leaf	D	17.0	Wallace & Romney (1972)
Cedar *Juniperus virginianus*	Missouri	branch	D	(2.7-2.9)	Connor et al. (1970)
Water willow *Justicia americana*	Pennsylvania	whole	D	(18.0-50.0)	Adams et al. (1973)
Krameria *Krameria parvifolia*	Nevada	leaf	D	(4.0-10.0)	Wallace & Romney (1972)
" "	"	stem	D	(8.0-39.0)	"
Lettuce *Lactuca sativa*	East Asia	leaf	W	1.8	Leung (1973)
" "	United States			(3.0-33.0) 19.0	Beeson (1941)
" "	Great Britain & North America		A	60.0	Warren (1972b)
" "	"		D	11.0	"
" "	"		W	0.7	"
" "	"		A	(4-480)60	" (1972a)
" "	Ontario	leaf	D	(8.7-23.2)	Hutchinson et al. (1974)
" "	"	root	D	(14.0-26.1)	"
" "	Australia near Cu smelter		D	64.0±10.0	Beavington (1975)
Prickly lettuce *Lactuca scariola*	East Asia	leaf	W	0.6	Leung (1973)

Creosote bush *Larrea divaricata*	Nevada	leaf	D	(1.0-29.0)	Wallace & Romney (1972)
" "	"	stem	D	(8.0-19.0)	"
Lentil *Lens culinaris*	East Asia	seed	D	6.6	Leung (1973)
Leptospermum scoparium	New Zealand	leaf	A	(77.0-105.0)	Lyon et al. (1971)
Loudetia simplex	Katanga	Used to locate Cu deposits			Cannon (1971)
Ludwigia *Ludwigia palustris*	Pennsylvania	whole	D	29.3	Adams et al. (1973)
Lupine *Lupinus sp.*	Alaska	top	D	6.3	Kubota et al. (1970)
Campion *Lychnis alpina*	Norway	Used for locating economic deposits of Cu			Cannon (1971)
Campion *Lychnis silvestre*	Czechoslovakia	" "			"
Box thorn *Lycium andersoni*	Nevada	leaf	D	(2.0-17.0)	Wallace & Romney (1972)
" "	"	stem	D	(13.0-30.0)	"
Lycium pallidum	"	leaf	D	(4.0-5.0)	"
Lycium shockleyi	"	"	D	3.0	"
Tomato *Lycopersicon esculentum*	United States	fruit		(8.0-34.0) 14.0	Beeson (1941)
" "	"	leaf	D	(3.0-12.0)	Gauch (1972)
" "	East Asia	fruit	W	1.9	Leung (1973)
" "	Missouri	"		(5.8-9.2)	Missouri (1972)

Tomato Lycopersicon esculentum	Lower Dahomey	fruit	D	8.5	Cresta et al. (1975)
Apple Malus sylvestris	East Asia	"	W	0.9	Leung (1973)
" "	United States	leaf	D	(2.0-6.0)	Gauch (1972)
Mango Mangifera indica	East Asia	fruit	W	1.17	Leung (1973)
Cassava Manihot utilitissima	Lower Dahomey	root	D	(1.4-4.0)	Cresta et al. (1975)
Alfalfa Medicago sativa	United States			(4.0-15.0) 9.0	Beeson (1941)
Saga Metroxylon spp.	East Asia	flour	W	1.0	Leung (1973)
Horseradish Moringa oleifera	"	leaf	W	1.1	"
Banana Musa sapientum	"	bud & flower	W	1.45	"
" "	"	fruit	W	2.0	"
Scorpion grass Myosotis monroi	New Zealand	leaf	A?	45.0±SD 0.14	Lyon et al. (1971)
Water milfoil Myriophyllum brasiliense	Pennsylvania	whole	D	41.3	Adams et al. (1973)
Water milfoil Myriophyllum farwellii	"	"	D	20.6	"
Water milfoil Myriophyllum exalbescens	"	"	D	(10.0-30.0)	"
Water milfoil Myriophyllum sp.	Italy	"	A	181.0±SE 11.0	Merlini et al. (1971)

Pondweed *Najas gracillima*	Pennsylvania	whole	D	43.0	Adams et al. (1973)
Pondweed *Najas sp.*	Italy	"	A	45.0±SE 5.0	Merlini et al. (1971)
Red beech *Nothofagus fusca*	New Zealand	leaf	A	111.0±SD 84.0 med. 100.0	Timperley et al. (1970)
Silver beech *Nothofagus menziesii*	"	"	A	160.0±SD 43.0 med. 160.0	"
Notothlaspi australe	"		A	18.0±SD 0.19	Lyon et al. (1971)
Yellow cow lily *Nuphar advena*	Pennsylvania	whole	D	23.0	Adams et al. (1973)
Yellow pond lily *Nuphar variegatum*	"	"	D	(17.0-25.0)	"
Yellow pond lily *Nuphar sp.*	Italy	"	A	64.0±SE 3.0	Merlini et al. (1971)
White water lily *Nymphaea tuberosa*	Pennsylvania	"	D	26.0	Adams et al. (1973)
Tree daisy *Olearia rani*	New Zealand	leaf	A	209.0±SD 127.0 med. 155.0	Timperley (1970)
Glutinous rice *Oryza glutinosa*	East Asia		D	2.8	Leung (1973)
Rice *Oryza sativa*	"	brown	D	3.6	"
" "	"	polished	D	2.3	"
" "	Washington		D	(0.7-0.8)	Haller et al. (1969)
" "	Lower Dahomey	grain	D	(1.2-2.1)	Cresta et al. (1975)

Indian rice grass Oryzopsis hymenoides	Nevada	top	D	78.0	Wallace & Romney (1972)
Passion fruit Passiflora quadrangulata	East Asia	fruit	W	0.50	Leung (1973)
Parsnip Pastinica sativa	"		W	1.1	"
" "	Ontario	leaf	D	8.9	Hutchinson et al. (1974)
" "	"	root	D	8.9	"
Avocado Persea americana	East Asia	fruit	W	3.16	Leung (1973)
Reed canary grass Phalaris arundinacea	Pennsylvania	whole	D	10.3	Adams et al. (1973)
Mung bean Phaseolus aureus	East Asia	bean	D	7.6	Leung (1973)
Kidney bean Phaseolus vulgaris	"	bean with pod	W	0.7	"
" "	"	string bean	W	1.3	"
" "	United States			(0.7-16.0) 11.0	Beeson (1941)
" "	Missouri			(9.4-10.4)	Missouri Univ. (1972)
" "	Great Britain & North America		A	100.0	Warren (1972)
" "	"		D	7.0	"
" "	"		W	0.8	"
" "	"		A	(40-250)100	" (1972a)

Reed grass *Phragmites sp.*	Italy	whole	A	52.0±SE 12.0	Merlini et al. (1971)
Norway spruce *Picea abies*	Sweden	root	D	(8.0-21.0)	Tyler (1972)
" "	"	wood	D	2.0	"
" "	"	bark	D	25.0	"
" "	"	twig	D	(42.0-76.0)	"
" "	"	needle	D	(4.4-8.1)	"
" "	Connecticut	leaf	D	(5.0-8.0) 6.0±SE 0.9	Smith (1973)
" "	"	twig	D	(13.0-16.0) 15.0±SE 0.9	"
" "	Great Britain	bark	D	5.0	Barnes et al. (1976)
" "	"	wood	D	0.6	"
Black spruce *Picea mariana*	Quebec (near Cu smelter)	leaf	D	(1.0-65.0)	LeBlanc et al. (1974)
Pimelia suteri	New Zealand	"	A	125.0±SD 0.2	Lyon et al. (1971)
Jack pine *Pinus banksiana*	Ontario Dist. from smelter (mi):				Hutchinson & Whitby (1974)
" "	" " 4.6		D	(34.2-52.2)	"
" "	" " 6.5		D	(7.2-9.0)	"
" "	" " 12.0		D	(21.0-30.6)	"
" "	" " 18.0		D	(14.4-10.8)	"
" "	" " 31.0		D	(9.0-12.3)	"
Pitch pine *Pinus resinosa*	Ontario near smelter		D	(3.5-117.3)	"

White pine *Pinus strobus*	Ontario near smelter			(5.5-27.8)	Hutchinson & Whitby (1974)
Peas *Pisum sativum*	East Asia	seed	D	9.3	Leung (1973)
" "	"	"	W	2.4	"
" "	United States			(6.0-15.0) 9.0	Beeson (1941)
Riverweed *Podostemum ceratophyllum*	Pennsylvania	whole	D	11.6	Adams et al. (1973)
Pink *Polycarpea spirostylis*	Australia	Used for prospecting for Cu			Cannon (1971)
Water persicaria *Polygonum amphibium*	Pennsylvania	whole	D	45.6	Adams et al. (1973)
Largetooth aspen *Populus grandidentata*	Ontario Dist. from smelter (mi):				Hutchinson & Whitby (1974)
" "	" " 1.0		D	(28.6-121.5)	"
" "	" " 1.4		D	16.1	"
" "	" " 4.6		D	(12.5-16.1)	"
" "	" " 12.0		D	19.7	"
" "	" " 18.0		D	(10.7-17.9)	"
" "	" " 31.0		D	(10.7-12.5)	"
Lombardy poplar *Populus nigra italica*	Great Britain	bark	D	24.0	Barnes et al. (1976)
" " "	"	wood	D	1.5	"
Poplar *Populus sp.*	Hungary	leaf	D	7.6	Tolgyesi & Bencze (1970)

Quaking aspen *Populus tremuloides*	Alaska	leaf	D	6.7	Kubota et al. (1970)
" "	"	twig	D	6.5	"
" "	Ontario	leaf	D	(8.7-91.7)	Hutchinson & Whitby (1974)
Pickerel weed *Pontederia cordata*	Pennsylvania	whole		(23.0-60.0)	Adams et al. (1973)
Pond weed *Potamogeton amplifolius*	"	"	D	34.0	"
Pond weed *Potamogeton crispus*	"	"	D	(15.0-50.0)	"
Pond weed *Potamogeton epihydrus*	"	"	D	(50.0-54.3)	"
Pond weed *Potamogeton filiformis*	"	"	D	27.0	"
Pond weed *Potamogeton gramineus*	"	"	D	83.6	"
Pond weed *Potamogeton illinoensis*	"	"	D	(5.0-15.0)	"
Pond weed *Potamogeton pectinatus*	"	"	D	102.9	"
Pond weed *Potamogeton richardsoni*	"	"	D	53.3	"
Pond weed *Potamogeton robbinsii*	"	"	D	40.0	"
Pond weed *Potamogeton sp.*	Italy	"	A	98.0±SE 30.0	Merlini et al. (1971)
Pond weed *Potamogeton zosteriformis*	Pennsylvania	"	D	(26.0-32.0)	Adams et al. (1973)
Guava *Psidium guajava*	East Asia	fruit	W	0.2	Leung (1973)

White oak *Quercus alba*	Missouri		D	(3.0-7.4)	Bolter et al. (1973)
Pin oak *Quercus palustris*	Connecticut	leaf	D	(9.0-15.0) 11.0±SE 0.6	Smith (1973)
" "	"	twig	D	(6.0-11.0) 9.0±SE 0.5	"
Red oak *Quercus rubra*	Ontario		D	(21.0-42.0)	Hutchinson & Whitby (1974)
Post oak *Quercus stellata*	Missouri		D	(3.0-7.4)	Bolter et al. (1973)
Quintinia acutifolia	New Zealand	leaf	A	77.0±SD 36.0 med. 72.0	Timperley (1970)
Buttercup *Ranunculus longirostris*	Pennsylvania	whole	D	24.6	Adams et al. (1973)
Radish *Raphanus sativus*	East Asia	root	W	1.5	Leung (1973)
Black locust *Robinia sp.*	Hungary	leaf	D	7.9	Tolgyesi & Bencze (1970)
Water cress *Rorripa nasturtium-aquaticum*		leaf & stem	W	1.4	Leung (1973)
Arrowhead *Sagittaria latifolia*	Pennsylvania	whole		(40.0-70.0)	Adams et al. (1973)
Willow *Salix sp.*	Hungary	leaf	D	8.8	Tolgyesi & Bencze (1970)
" "	Alaska	"		5.6	Kubota et al. (1970)
" "	"	twig		5.1	"

Lizard tail Saururus cernuus	Pennsylvania	whole		20.0	Adams et al. (1973)
Five fingers Schefflera digitata	New Zealand	leaf	A	179.0±SD 111.0 med. 130.0	Timperley et al. (1970)
Spike rush Scirpus americanus	Pennsylvania	whole		(32.0-62.3)	Adams et al. (1973)
Rush Scirpus validus creber	"	"	D	31.3	"
Squirreltail Sitanion hystrix	Nevada	top	D	64.0	Wallace & Romney (1972)
Eggplant Solanum melongena	East Asia	fruit	W	0.9	Leung (1973)
Potato Solanum tuberosum	Great Britain & North America	tuber	A	100.0	Warren (1972b)
" "	"	"	D	5.0	"
" "	"	"	W	0.9	"
" "	"	"	A	(15-20)19.5	" (1972a)
" "	Ontario	leaf	D	(10.4-11.1)	Hutchinson et al. (1974)
" "		tuber	D	(10.9-13.5)	"
" "	United States	"		(2.0-24.0) 8.0	Beeson (1941)
" "	East Asia	"	W	2.3	Leung (1973)
Smooth cordgrass Spartina alterniflora	S.E. United States	leaf & stem	D	(0.5-7.8) 3.7	Windom (1974)

Bur-reed Sparganium americanum & S. chlorocarpum	Pennsylvania	whole	D	(20.0-65.0)	Adams et al. (1973)
Spinach Spinacia oleracea	United States			(3.0-24.0) 9.0	Beeson (1941)
" "	East Asia	leaf & stem	W	1.6	Leung (1973)
" "	Lower Dahomey		D	(8.4-20.0)	Cresta et al. (1975)
Yew Taxus spp.	Connecticut	leaf		(7.0-12.0) 9.0±SE 0.6	Smith (1973)
" "	"	twig		(8.0-21.0) 12.0±SE 1.2	"
Goat's rue Tephrosia sp.	Australia	Used for commercial prospecting for Cu			Cannon (1971)
Turtle grass Thalassia testudinum	Puerto Rico		D	(7.9-16.0) 11.0	Lowman et al. (1966)
" "	"		D	(10.0-32.0) 18.0	" (1967)
" "	Florida		D	13.0	"
Linden Tilia sp.	Hungary	leaf	D	6.9	Tolgyesi & Bencze (1970)
Spanish moss Tillandsia usnoides	United States	whole	A	(20.0-2,000.0) 150.0	Shacklette & Connor (1973)
Red clover Trifolium pratense	Pennsylvania			(6.0-20.0) 10.0	Beeson (1941)
" "	Scotland			(4.7-8.1)	Reith (1970)
" "	" grown at pH 5.0			7.9	"

Red clover Trifolium pratense	Scotland grown at pH 6.5			6.9	Reith (1970)
Prairie grass Triodea pungens	Australia	leaf	A	47.0±SD 20.0 med. 44.0	Timperley (1970)
Wheat Triticum aestivum	East Asia	grain	W	2.1	Leung (1973)
" "	United States			(4.0-24.0) 9.0	Beeson (1941)
" "	"	straw		(1.0-5.0)3.0	"
" "	"	grain	D	(4.5-5.1)	Zook et al. (1970)
Eastern hemlock Tsuga canadensis	Connecticut	leaf	D	(6.0-11.0) 8.0±SE 0.7	Smith (1973)
" "	"	twig	D	(13.0-19.0) 16.0±SE 1.0	"
Bladderwort Utricularia vulgaris	Pennsylvania	whole	D	(19.0-30.3)	Adams et al. (1973)
Blueberry Vaccinium angustifolium	Ontario dist. from smelter (mi):				Hutchinson & Whitby (1974)
" "	" " 1		D	(24.0-75.2)	"
" "	" " 1.4		D	(30.4-44.8)	"
" "	" " 4.6		D	(22.4-35.2)	"
" "	" " 6.5		D	(14.4-22.4)	"
" "	" " 8.4		D	(14.4-22.4)	"
" "	" " 12.0		D	(14.4-19.2)	"
" "	" " 18.0		D	(11.2-19.2)	"
" "	" " 31.0		D	(8.0-14.4)	"

Billberry *Vaccinium myrtillus*	Sweden	top	D	48.0	Tyler (1972)
Cowberry *Vaccinium vitis-idaea*	"	"	D	28.0	"
Speedwell *Veronica scutellata*	Pennsylvania	whole	D	104.6	Adams et al. (1973)
Grape *Vitis vinifera*	East Asia	fruit	W	0.7	Leung (1973)
Kamaki *Weinmannia racemosa*	New Zealand	leaf	A	77.0±SD 49.0 med. 70.0	Timperley et al. (1970)
Yucca *Yucca brevifolia*	Nevada	"	D	(13.0-18.0)	Wallace & Romney (1972)
" "	"	shoot	D	(5.0-9.0)	"
Yucca *Yucca schidigeri*	"	leaf	D	(4.0-25.0)	"
" "	"	shoot	D	(5.0-12.0)	"
" "	"	top	D	12.0	"
" "	"	root	D	80.0	"
Corn *Zea mays*	United States	grain		(4.0-17.0) 8.0	Beeson (1941)
" "	"	stover		(2.0-9.0)5.0	"
" "	East Asia	grain	W	1.6	Leung (1973)
" "	Lower Dahomey	"	D	(1.0-2.9)	Cresta et al. (1975)
Eel grass *Zostera marina*	Japan		D	15.9	Ishibashi et al. (1964)
Eel grass *Zostera sp.*	Portugal & Spain		D	(9.0-36.0)	Stenner & Nickless (1975)
" "	" (contaminated bay)		D	1350.0	"

COPPER IN ALGAE (1)

Species	Locality	Tissue	Analysis PPM (2)	Authority
Seaweed *Acanthopeltis japonica*	Japan		D (7.6-8.1)	Ishibashi et al. (1964)
Seaweed *Agarum cribosum*	Sea of Japan		D (4.57-4.9)	Gryzhankova et al. (1973)
Red alga *Ahnfeltia plicata*	Nova Scotia		D 13.0	Young & Langille (1958)
Brown alga, knotted wrack *Ascophyllum nodosum*	Norway unpolluted fjord		D (4.0-8.0)5.5	Haug et al. (1974)
" "	" polluted fjord		D (45.0-240.0)	"
" "	"		Cu in algae reached normal at 35 km from source	"
" "	"		D 38.0	Lande (1977)
" "	Scotland		D (4.0-12.0)	Black & Mitchell (1952)

---

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Brown algae, knotted wrack Ascophyllum nodosum	Scotland	D	2.9	Black & Mitchell (1952)
" "	Nova Scotia	D	6.0	Young & Langille (1958)
" "	Sweden	D	(2.0-50.0)	Hagerhall (1972)
" "	Great Britain (polluted)	D	(46.0-96.0) 68.0	Foster (1976)
" "	" (non-polluted)	D	(6.0-18.0)12.0	"
Seaweed Carpopeltis flabellata	Japan	D	(7.1-9.2)	Ishibashi et al. (1964)
Seaweed Caulerpa okamurai	"	D	18.1	"
Seaweed Chaetomorpha crassa	"	D	(9.2-14.1)	"
Red alga Chondria literalis	Puerto Rico	D	(6.0-23.0)	Lowman et al. (1967)
" "	"	W	(1.0-3.0)	"
Seaweed Chondrococcus japonicus	Japan	D	26.7	Ishibashi et al. (1964)
Irish moss Chrondrus crispus	Nova Scotia	D	20.0	Young & Langille (1958)
" "	"	D	(14.0-35.0)	"
" "	Spain & Portugal	D	8.0	Stenner & Nickless (1975)
Brown alga Chorda filum	"	D	5.5	"

Brown alga *Chorda filum*	Sea of Japan	D	(2.38-2.48)	Gryzhankova et al. (1973)
Brown alga *Chordaria maggelanica*	"	D	3.26±SD 0.12	"
Green alga *Cladophora glomerata*	Sweden	D	(11.0-25.0)	Hagerhall (1972)
Green alga *Cladophora wrightiana*	Japan	D	13.2	Ishibashi et al. (1964)
Seaweed *Coccophora langsdorfi*	Sea of Japan	D	2.8±0.2	Gryzhankova et al. (1973)
Green alga *Codium fragile*	Japan	D	19.6	Ishibashi et al. (1964)
Green alga *Codium sp.*	Sea of Japan	D	(2.96-5.79)	Gryzhankova et al. (1973)
Green alga *Codium purniformis*	Japan	D	27.7	Ishibashi et al. (1964)
Red alga *Corallina officinalis*	Spain & Portugal	D	(7.5-8.0)	Stenner & Nickless (1975)
" "	Norway	D	11.0	" (1974)
Seaweed *Cymodocea sp.*	Puerto Rico	D	(6.8-14.0) 12.0	Lowman et al. (1966)
" "	"	W	(0.55-2.3)1.2	"
Seaweed *Delesseria sanguina*	Spain & Portugal	D	9.0	Stenner & Nickless (1975)

Seaweed *Desmariestia viridis*	Puerto Rico	D	9.2	Lowman et al. (1966)
Brown alga *Dictyota dichotoma*	Sea of Japan	D	6.63±0.39	Gryzhankova et al. (1973)
Brown alga *Dictyota sp.*	Puerto Rico	D	7.0	Lowman et al. (1967)
" "	"	W	1.0	"
Seaweed *Eisenia bicyclis*	Japan	D	(11.0-24.0) 16.0	Ishibashi et al. (1964)
Green alga *Enteromorpha intestinalis*	Sweden	D	(5.0-58.0)	Hagerhall (1972)
Green alga *Enteromorpha sp.*	Sea of Japan	D	(6.32-7.92)	Gryzhankova et al. (1973)
Seaweed *Eudesme crassa*	Japan	D	12.7	Ishibashi et al. (1964)
Wrack *Fucus distincus*	Greenland	W	(1.8-8.9)	Bollingberg (1975)
Wrack *Fucus serratus*	Scotland	D	(5.0-11.0)	Black & Mitchell (1952)
" "	"	W	1.2	"
Wrack *Fucus spiralis*	"	D	(6.0-31.0)	"
" "	"	W	5.7	"
Wrack *Fucus vesiculosis*	"	D	(7.0-10.0)	"
" "	"	W	2.3	"

Wrack Fucus vesiculosis	Nova Scotia		D	8.0	Young & Langille (1958)
" "	Norway		D	35.0	Lande (1977)
" "	W. Greenland		D	(1.8-8.9)	Bollingberg (1975)
" "	Great Britain	(1970)	D	(1.7-28.4)	Preston et al. (1972)
" "	"	(1961)	D	(1.6-36.0)	"
" "	"		D	(3.9-141.0)	Bradfield et al. (1976)
" "	"		D	(5.0-30.0)	Bryan (1971)
" "	"		D	(9.0-68.0)	Bryan & Hummerstone (1973)
" "	" (Fal estuary)		D	301.0	"
" "	" (polluted)		D	(49.0-97.0) 71.0	Foster (1976)
" "	" (non-polluted)		D	(7.4-10.0) 9.0	"
Red alga Gelidium sp.	Japan		D	(7.0-8.7)	Ishibashi et al. (1964)
Red alga Gigartina stellata	Norway		D	(ND-33.0)	Stenner & Nickless (1974)
Seaweed Glosiphonia capillaris	Japan		D	13.8	Ishibashi et al. (1964)
Red alga Halosaccion ramentaceum	Nova Scotia		D	11.0	Young & Langille (1958)
Seaweed Hypnea saidana	Japan		D	16.60	Ishibashi et al. (1964)

Seaweed Hypnea sp.	Japan		D	15.10	Ishibashi et al. (1964)
Seaweed Ishige foliacea	"		D	7.40	"
Seaweed Ishige okamurai	"		D	9.90	"
Brown alga Laminaria cloustoni	Scotland	frond	D	(14.0-30.0)	Black & Mitchell (1952)
Brown alga Laminaria digitata	"	"	D	(3.0-20.0)	"
" "	"	stipe	D	(5.0-21.0)	"
" "	"	frond	W	(0.7-0.9)	"
" "	"	stipe	W	(1.4-2.4)	"
" "	Nova Scotia		D	11.0	Young & Langille (1958)
" "	"	frond	D	7.0	"
" "	"	stipe	D	20.0	"
" "	Great Britain		W	(1.3-4.0)	Bryan (1969)
Brown alga Laminaria hyperborea	Scotland		D	15.0	Black & Mitchell (1952)
Brown alga Laminaria longicrurus	Nova Scotia		D	12.0	Young & Langille (1958)
" "	"	frond	D	36.0	"
" "	"	stipe	D	12.0	"
Brown alga Macrocystis pyrifera	California		D	(2.9-6.9) 4.6 calc. from ash	Boothe & Knauer (1972)

Seaweed *Meristotheca papulosa*	Japan	D	24.00	Ishibashi et al. (1964)
Seaweed *Myelophycus caespitosus*		D	12.60	"
Seaweed *Neurocarpus prolifera*		D	17.80	"
Brown alga *Padina arborescens*		D	(10.7-12.1) 11.5	"
Brown alga *Padina sp.*	Puerto Rico	W	(1.0-3.0)2.0	Lowman et al. (1967)
" "	"	D	(6.0-28.0) 16.0	"
Brown alga, channel wrack *Pelvetia canaliculata*	Scotland	D	(5.0-16.0)	Black & Mitchell (1952)
" "	"	W	3.7	"
" "	Norway	D	55.0	Lande (1977)
Brown alga *Pelvetia wrightii*	Sea of Japan	D	2.43±SD 0.07	Gryzhankova et al. (1973)
Red alga *Phyllophora membranifolia*	Nova Scotia	D	11.0	Young & Langille (1958)
Laverweed, red alga *Porphyra umbilicata*	Great Britain	D	(2.8-23.3) 8.9	Preston et al. (1972)
Red alga *Rhodymenia palmata*	Nova Scotia	D	26.0	Young & Langille (1958)
Sargassum weed *Sargassum enerve*	Japan	D	6.1	Ishibashi et al. (1964)

Sargassum weed *Sargassum giganteifolium*	Japan	D	9.5	Ishibashi et al. (1964)
Sargassum weed *Sargassum hornery*	"	D	10.5	"
Sargassum weed *Sargassum micracanthum*	"	D	13.3	"
Sargassum weed *Sargassum miyabei*	"	D	2.96±SD 0.17	Gryzhankova et al. (1973)
Sargassum weed *Sargassum palidum*	"	D	(2.06-3.22)	"
Sargassum weed *Sargassum piluliferum*	"	D	(4.9-19.2)	Ishibashi et al. (1964)
Sargassum weed *Sargassum ringgoldianum*	"	D	(9.6-10.6) 10.1	"
Sargassum weed *Sargassum serratifolium*	"	D	12.3	"
Sargassum weed *Sargassum sp.*	Caribbean	D	(4.8-54.0) 19.4	Forster et al. (1972)
Sargassum weed *Sargassum thunbergii*	Japan	D	(9.9-26.0) 14.8	Ishibashi et al. (1964)
Green alga *Scenedesmus spp.*	Ontario	D	(3.7-7.6)	Silverberg et al. (1976)
Seaweed *Scytosiphon tomentarius*	Japan	D	24.1	Ishibashi et al. (1964)
Green alga *Spongomorpha arcta*	Nova Scotia	D	55.0	Young & Langille (1958)
Seaweed *Trichocarpus crinitus*	Japan	D	3.02±SD 0.14	Gryzhankova et al. (1973)

Brown alga *Turbinaria turbinata*	Puerto Rico		A	31.0	Lowman et al. (1966)
Green alga *Udotea flabellum*			A	35.0	Ting & DeVega (1969)
" "	"		W	(2.6-140.0) 15.0	Lowman et al. (1966)
" "	"		D	(5.6-150.0) 18.0	"
Green alga *Ulva conglobata*	Japan		D	21.0	Ishibashi et al. (1964)
Green alga *Ulva fenestrata*	"		D	6.59	Gryzhankova et al. (1973)
Green alga, water lettuce *Ulva lactuca*	Spain & Portugal		D	(5.5-26.0)	Stenner & Nickless (1975)
" "	Norway		D	(9.0-170.0)	" (1974)
" "	Nova Scotia		D	62.0	Young & Langille (1958)
" "	"		D	(81.5-117.5)	"
Seaweed *Undaria pinnatifida*	Korea	blade	D	(2.2-6.2) 3.9	Kim & Won (1974)
" "	"	sporophyll	D	(1.4-6.9)3.2	"

COPPER IN MOSSES, LICHENS AND FUNGI (1)

Species	Locality	Tissue	Analysis (2) PPM	Authority
MOSSES				
Hylocomium splendens	Scandinavia		D (<5.0->12.0) 9.0	Ruhling & Tyler (1973)
" "	Quebec (near Cu smelter)		D (36.0-900.0)	LeBlanc et al. (1974)
Hypnum cupressiforme	Sweden		D (9.8-21.2)	Ruhling & Tyler (1969)
" "	" ridges		D 16.3	"
" "	" plains		D 12.4	"
" "	" 1870-1899		D 10.0	"
" "	" 1900-1919		D 13.0	"
" "	" 1969		D 13.0	"
" "	Wales, dist. downwind from smelter (km):			Goodman & Roberts (1972)
" "	" "	1.5	D dead	"
" "	" "	+3.0	D dead	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g =picocuries per gram.

Hypnum cupressiforme	Wales, dist. downwind from smelter (km):				Goodman & Roberts (1972)
" "	" "	+8.0	D	(62.0-68.0)	"
" "	" "	+25.0	D	(18.0-19.0)	"
" "	" (upwind)	-18.0	D	11.0	"
" "	" transplanted 2 wks	+ 1	D	47.0	"
" "	" "	+ 2	D	25.0	"
" "	" "	+ 6	D	261.0	"
" "	" "	+ 8	D	83.0	"
" "	" "	-14	D	14.0	"
" "	Sweden near industry		D	265.0 (max.)	Tyler (1969)
" "	" "		D	580.0 "	" (1972)
Copper moss *Mielichhoferia macrocarpa*			A	1,000	Peterson (1971)
Pleurozium schreberi	Quebec near Cu smelter		D	(41.0-1340.0)	LeBlanc et al. (1974)
Sphagnum angustifolium	S. Finland		D	3.9	Pakarinen & Tolanen (1976)
" "	NWT, Great Slave Lake		D	2.8	"
Sphagnum balticum	S. Finland		D	3.1	"
Sphagnum fuscum	"		D	5.2	"
" "	"		D	(3.8-22.2) 6.3	"
" "	NWT, Great Slave Lake		D	3.2	"
" "	Alberta, Edmonton		D	2.9	"

Sphagnum magellanicum	S. Finland		D	3.0	Pakarinen & Tolanen (1976)
LICHENS					
Cladonia capitata	Ohio, on coal mine spoil		D	8.0	Lawrey & Rudolph (1975)
Cladonia cristatella	" "		D	8.0	"
Cladonia subcariosa	" "		D	18.0	"
Cladonia subtenuis	" "		D	7.0	"
Cladonia verticillata	" "		D	7.0	"
Cladonia cristatella		untreated	D	12.0±SD 4.0	"
" "		washed 6 hrs. c̄ acetone	D	12.0±SD 1.0	"
" "		" " " c̄ water	D	14.0±SD 5.0	"
Lecanora rubinia	Colorado		A	100.0	Leroy & Koksoy (1962)
Lecanora vinetorum		on wood supports sprayed with bordeaux mixture		5,000.0	Ferry et al. (1973)
Parmelia baltimorensis	Washington, D.C.	1938	D	17.0	Hale (1975)
" "	"	1958	D	22.0	"
" "	"	July 1970	D	32.0	"
" "	"	Oct. 1970	D	30.0	"
" "	Connecticut	1971	D	20.0	"
Parmelia caperata	Japan		D	14.7±SD 5.4	Saeki et al. (1977)
Parmelia clavulifera	"		D	17.4±SD 4.9	"

Parmelia conspersa	Colorado		A	(150.0-200.0)	Leroy & Koksoy (1962)
" "	Japan		D	19.7±SD 14.7	Saeki et al. (1977)
Parmelia physodes	Sweden (polluted by industry)		D	145.0	Tyler (1972)
Parmelia tinctorum	Japan		D	11.3±SD 3.4	Saeki et al. (1977)
Peltigera rufescens	Great Britain dist. from smelter (meters):				Seaward (1973) in Ferry et al. (1973)
" "	" "	0		91.35	"
" "	" "	100		54.22	"
" "	" "	270		34.15	"
" "	" "	440		20.48	"
" "	" "	610		27.24	"
" "	" "	780		20.27	"
" "	" (control)			16.14	"
Umbilicaria hyperborea	Colorado		A	(500.0-1000.0)	Leroy & Koksoy (1962)
Xanthoria elegans	"		A	300.0	"
FUNGI					
Amanita muscaria	Yugoslavia	stalk	D	(7.89-14.2)	Kosta et al. (1974)
" "	"	cap	D	(25.4-29.3)	"
Amanita pantherina	"	whole	D	(22.1-23.6)	"
Amanita phalloides	"	stalk	D	(7.79-8.81)	"
" "	"	cap	D	(25.4-29.3)	"
Coprinus comatus	"	whole	D	(76.1-76.4)	"
Cortinarius praestans	"	"	D	(40.8-50.1)	"

Cortinarius saturatus	Yugoslavia	whole	D	(40.0-40.3)	Kosta et al. (1974)
Hygrocybe punicea	"	"	D	(9.01-9.73)	"
Hypholoma fasciculare	"	"	D	(34.6-36.0)	"
Lactarius deliciosus	"	"	D	(13.8-16.1)	"
Lactarius torminosus	"	"	D	(13.5-13.6)	"
Lycoperdon perlatum	"	spore	D	(125.0-165.0)	"
" "	"	whole	D	(93.4-95.9)	"
Macrolepiota procera	"	cap	D	(18.9-131.7)	"
Ramaria pallida	"	whole	D	(24.0-24.4)	"
Sarcodon imbricatum	"	"	D	(34.8-36.3)	"
Suillus bovinus	"	"	D	(27.5-27.9)	"

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD: BEGIN SECTIONS HERE

LEAD IN MAMMALS(1)

Species	Locality	Tissue	Analysis PPM(2)	Authority
Moose Alces alces gigas	Alaska	hair	(3.5-10.0) 6.0	Flynn et al. (1975)
" " "	"	Pb in shoulder hair was low in Jan.-July and high from August to December		"
Field mouse Apodemus sylvaticus	Wales (abandoned Pb Zn mines)	whole body	D (8.6-13.9)	Roberts et al. (1978)
" "	" "	kidney	D (39.2-46.6)	"
" "	" "	liver	D (11.7-13.0)	"
" "	" "	bone	D (189.0-352.0)	"
" "	" "	brain	D (5.7-13.0)	"
" "	" "	muscle	D (6.63-10.1)	"
" "	" (non-polluted control)	kidney	D (9.42-12.7)	"
" "	" "	liver	D (5.37-7.85)	"
" "	" "	bone	D (11.5-21.1)	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ±Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA, OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

PAGE NUMBER
EPA-287 (Cin.)
(4-76)

Field mouse *Apodemus sylvaticus*	Wales,(non-polluted control)	brain	D	(3.31-3.50)	Roberts et al. (1978)
" "	" "	muscle	D	(5.25-5.80)	"
" "	" "	whole body	D	(0.92-1.16)	"
Short-tailed shrew *Blarina brevicauda*	Illinois (heavy traffic 10 m)	whole body	D	17.2	Getz et al. (1977)
" "	" (medium ")	"	D	6.4	"
" "	" (low ")	"	D	3.9	"
" "	" (control 50 m)	"	D	3.3	"
" "	"	"	D	(5.7-18.4)	"
" "	"	intestine	D	(3.1-24.0)	"
" "	"	spleen	D	(2.3-4.5)	"
" "	"	liver	D	(1.0-4.6)	"
" "	"	lung	D	(5.6-16.9)	"
" "	"	kidney	D	(3.9-12.4)	"
" "	"	femur	D	(12.2-67.1)	"
" "	"	muscle	D	(5.4-9.7)	"
" "	(roadside)	whole	D	14.0	Quarles et al. (1974)
" "	(control)	"	D	(2.6-5.4)	"
" "	New England	"	W	2.6±SD 0.12	Schlesinger & Potter (1974)
Cow *Bos bovis*		kidney	W	0.2	Bagchi (1940)
" "		liver	W	(0.36-0.42)	"

Cow Bos bovis		brain	W	0.13	Kehoe (1960)
" "		bone	W	3.6	"
" "		kidney	W	(0.12-0.38)	"
" "		spleen	W	(0.003-0.027)	"
" "		liver	W	(0.29-0.4)	"
" "	Missouri (exposed to Pb smelter & trucking of Pb concentrate)				Dorn et al. (1974)
	fall	hair	D	94.13	"
" "	" " winter	"	D	87.5	"
" "	" " spring	"	D	96.5	"
" "	" " summer	"	D	66.0	"
" "	" (controls, unexposed farm)				
	fall	"	D	2.19	"
" "	" " winter	"	D	3.92	"
" "	" " spring	"	D	2.13	"
" "	" " summer	"	D	0.88	"
" "	" (exposed cows had 75X Pb in hair compared with controls)				"
" "		muscle	D	(6.31-7.48)	Dedolph et al. (1970)
" "		heart	D	(7.76-9.11)	"
" "		kidney	D	(11.73-12.66)	"
" "		liver	D	(6.55-8.73)	"
" "		bone	D	3.6	deTreville (1964)

TYPING GUIDE SHEET

Cow *Bos bovis*	Washington Dist. from Cu smelter, Mi:				Orheim et al. (1974)
" "	" " 15	blood		(0.12-0.26)0.143	"
" "	" " "	milk		(0.05-0.26)0.104	"
" "	" " 37	blood		(0.14-0.18)0.152	"
" "	" " "	milk		(0.06-0.07)0.064	"
" "	Montana (near smelter)	liver	W	0.2	Lewis (1972)
" "	" "	muscle	W	0.4	"
" "	" "	patella	W	20.0	"
" "	" "	milk	W	0.06	"
" "	California	muscle		(<0.03-0.16)	Goldsmith (1974)
" "	"	milk		(<0.01-0.08)	"
" "		muscle	W	0.20	Schroeder & Balassa (1961)
" "		bone marrow	W	0.07	"
" "	(organically raised)	liver	W	0.67	"
" "	"	kidney	W	0.51	"
" "	"	long bone	W	0.16	"
" "	(normal)	muscle & liver	W	>1.5	Allcroft (1950)
" "	"	blood	W	0.13±0.01	"
" "	(ingested Pb materials)	kidney	W	(<50.5-297.0)	"
" "	"	liver	W	(9.3-126.0)	"

EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET

Cow __Bos__ __bovis__	(ingested Pb materials)	spleen	W	(<1.0-5.7)	Allcroft (1950)
" "	"	lung	W	(2.0-3.6)	"
" "	"	heart	W	(1.0-1.3)	"
" "	"	brain	W	(<1.0-1.5)	"
" "	Montana (near Pb smelter)	knee bone	W	20.0	Lewis (1972)
" "	" "	liver	W	0.2	"
" "	" "	muscle	W	0.4	"
" "	New Zealand (healthy)	blood	W	(0.04-0.32) 0.18±SD 0.10	Ward et al. (1977a)
" "	" (poisoned from Pb piping)	"	W	(0.52-0.70)	"
" "	Kansas (smelter area)	milk	W	(0.042-0.052) 0.047	Lagerwerff & Brower (1974)
" "	Maryland (low Pb area)	"	W	(0.014-0.029) 0.024	"
" "	Germany (near highway)	muscle	W	0.24	Mollenhauer (1972)
" "	" "	kidney	W	1.58	"
" "	" "	liver	W	1.65	"
" "	" "	pelvis bone	W	25.0	"
" "	" "	udder	W	0.55	"
Fur seal __Callorhinus__ __ursinus__	Washington	fetus, kidney	W	0.3	Anas (1974)
" "	"	kidney, (age 1-20 yrs.)	W	(0.8-1.8)	"

TYPING GUIDE SHEET

Fur seal Callorhinus ursinus	Washington	fetus, liver	W	0.8	Anas (1974)
" "	"	(age 1-20 yrs.)	W	(0.2-0.8)	"
Dog Canis familiaris	(healthy)	blood	W	0.19±0.08	Zook et al. (1972)
" "	(lead poisoned)	"	W	0.94±0.64	"
" "	(healthy)	"	W	0.30	Wilson & Lewis(1963)
" "	(lead poisoned)	"	W	0.93	"
" "	New Zealand (healthy)	"	W	(0.08-0.42) 0.23±SD 0.06	Ward et al. (1977a)
" "	" (lead-poisoned from lead piping)	"	W	(3.67-4.82)	"
" "	" (from service station area)	"	W	(6.42-7.40)	"
Red deer Capreolus capreolus	Poland	Pb 210 in antlers		(0.02-0.4) pCi/g	Jaworowski (1966)
Guinea pig Cavia porcellus	Michigan (breathed filtered air)	pelt	W	0.12±SD 0.08	Smith et al. (1970)
" "	" (breathed city air (2.5 μg Pb/m^3)	"	W	0.18±SD 0.11	"
" "	" (control)	liver	W	0.33±SD 0.27	"
" "	" "	lung	W	0.25±SD 0.19	"
" "	" "	kidney	W	0.46±SD 0.28	"
" "	" "	heart	W	0.49±SD 0.3	"
" "	" "	intestine	W	0.33±SD 0.16	"

EPA-287 (Cin.)
(4-76)

Guinea pig *Cavia porcellus*	Michigan (control)	pelt	W	0.19±SD 0.18	Smith et al. (1970)
" "	" "	spleen	W	3.1±SD 2.0	"
" "	" "	bone	W	2.2±SD 0.6	"
" "	" "	muscle	W	0.12±SD 0.12	"
" "	Illinois (control, maternal)	femur	W	0.4	Illinois (1974)
" "	" "	liver	W	0.21	"
" "	" (fetal)	"	W	1.42	"
" "	Maryland (fed swiss chard grown on sludge amended soil)	"	D	(1.4-1.9)	Furr et al. (1976)
" "	" "	kidney	D	(1.5-2.3)	"
" "	" "	muscle	D	(1.3-1.8)	"
" "	" "	adrenal	D	(0.3-2.1)	"
" "	" "	spleen	D	(0.7-1.9)	"
Bank vole *Clethrionomys glareolus*	Wales (abandoned Pb Zn mines)	whole	D	(16.3-20.7)	Roberts et al. (1978)
" "	" (non-polluted control)	"	D	(2.36-2.64)	"
Columbia ground squirrel *Citellus columbianus*	Montana (Pb smelter area)	liver	W	(0.8-4.1)	Gordon (1972)
" "	" "	kidney	W	(0.7-2.0)	"
Least shrew *Cryptotis parva*	Illinois (heavy traffic 10 m)	whole	D	12.3	Getz et al. (1977)

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD, BEGIN SECTIONS HERE
BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
PAGE NUMBER
EPA-287 (Cin.)
(4-76)

Least shrew *Cryptotis parva*	Illinois (medium traffic 10 m)	whole	D	5.4	Getz et al. (1977)
" "	" (low " ")	"	D	3.2	"
" "	" (control 50m)	"	D	7.4	"
Horse *Equus caballus*	Montana Pb smelter--miles from stack:				Lewis (1972)
	2.6	lung	W	(0.3-0.4)	"
" "	" " "	liver	W	(4.0-5.0)	"
" "	" " "	kidney	W	(2.4-4.0)	"
" "	" " "	muscle	W	0.08	"
" "	" " "	mane hair	W	3.8	"
" "	" " "	bone	W	66.5	"
" "	California (near Pb smelter, 10 horses died)	liver	W	(15.2-222.0)	Knight & Burau (1973)
" "	" "	kidney	W	(14.0-80.0)	"
" "	" "	blood	W	(0.35-0.47)	"
" "	" "	fetus liver	W	11.8	"
" "	(healthy)	blood	W	0.11±0.09	Willoughby & Brown (1971)
" "	New Zealand (healthy)	"	W	(0.03-0.40) 0.19±SD 0.10	Ward et al. (1977a)
" "	" (lead poisoned from Pb piping)	"	W	0.54	"

Horse *Equus caballus*					
" "	Wales (ate grass near smelter)	kidney	W	40.4	Goodman & Roberts (1971)
" "	" (control)	"	W	3.1	"
" "	" (ate grass near smelter)	liver	W	12.0	"
" "	" (control)	"	W	9.0	"
" "	" (ate grass near smelter)	lung	W	1.6	"
" "	" (control)	"	W	1.3	"
" "	Montana distance from smelter (miles):				Lewis (1972)
" "	" " NE 2.9	mane	D	35.0	"
" "	" " SE 2.6	"	D	18.0	"
" "	" " NW 1.4	"	D	12.0	"
" "	" " NNW 1.9	"	D	10.0	"
" "	" " SSE 1.0	"	D	8.0	"
" "	" " N 1.0	"	D	7.4	"
" "	" " WNW 7.6	"	D	7.1	"
" "	" " E 2.9	"	D	5.2	"
" "	" " SE 5.3	"	D	4.8	"
" "	" " W 3.0	"	D	4.1	"
" "	" " WNW 2.3	"	D	3.4	"
" "	" " E 4.7	"	D	3.2	"
" "	" " NNW 2.3	"	D	1.4	"
" "	"	Proximity to stacks of the lead smelters correlates with increased levels of Pb in manes.			"

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD; BEGIN SECTIONS HERE

Chipmunk *Eutamias amoenus*	Montana Pb smelter area	kidney	W	(0.5-110.0)	Gordon (1972)
" "	" "	liver	W	(0.5-23.0)	"
Chipmunk *Eutamias townsendii*	roadside	hair	D	235.6	Raymond & Forbes (1975)
" "	control	"	D	6.0	"
Cat *Felis domesticus*	healthy	blood	W	0.05±0.04	Bloom et al. (1976)
" "	New Zealand	"	W	(0.06-0.40)	Ward et al. (1977a)
Canadian gray seal *Halichoerus grypus*	Detroit Zoo (lead poisoned)	liver & kidney	W	56.0	Zook et al. (1972)
" "	W. Scotland & Farne Islands	male	W	(0.06-0.4)	Hamilton (1976)
" "	" "	female	W	(0.1-1.5)	"
" "	" "	pup	W	(0.09-0.2)	"
Mandrill *Mandrillus sphinx*	(ate paint with 5.05% PbO)	liver	W	11.6	Hausman et al. (1961)
" "	"	kidney	W	8.4	"
Field vole *Microtus agrestis*	Wales (abandoned PbZn mine)	whole	D	(42.8-45.3)	Roberts et al. (1978)
" "	" (non-polluted control)	"	D	2.76	"
Vole *Microtus longicaudis*	Montana (Pb smelter area)	kidney	W	(0.5-110.0)	Gordon (1972)
" "	" "	liver	W	(0.5-23.0)	"

BEGIN LAST LINE OF TEXT
3/8"
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
PAGE NUMBER
EPA-287 (Cin.) (4-76)

Prairie vole *Microtus ochrogaster*	Illinois (heavy traffic 10 m)	whole	D	8.1	Getz et al. (1977)
" "	" (medium " ")	"	D	4.3	"
" "	" (low " ")	"	D	2.6	"
" "	" (control 50 m)	"	D	3.3	"
" "		"	D	(1.9-5.9)	"
" "	"	intestine	D	(2.8-18.4)	"
" "	"	spleen	D	(2.2-5.3)	"
" "	"	liver	D	(1.0-1.6)	"
" "	"	lung	D	(1.3-2.8)	"
" "	"	kidney	D	(2.8-8.1)	"
" "	"	femur	D	(4.6-23.2)	"
" "	"	thigh	D	(2.0-8.2)	"
Vole *Microtus montanus* and Meadow vole *Microtus pennsylvanicus*	Montana " (in Pb area)	kidney	W	(0.5-110.0)	Gordon (1972)
" "	"	liver	W	(0.5-23.0)	"
" "	" (roadside)	whole	D	4.4	Quarles et al. (1974)
" "	" (control)	"	D	2.6	"
" "	New York (control area)	kidney	D	(2.0-3.9)	Elfving et al. (1978)
" "	"	liver	D	(1.3-3.0)	"
" "	"	bone	D	(8.6-32.6)	"
" "	" (old orchards treated with lead arsenate)	kidney	D	(21.0-41.0)	"
" "	" "	liver	D	(3.0-10.5)	"

TYPING GUIDE SHEET

Meadow vole *Microtus pennsylvanicus*	New York (old orchards treated with lead arsenate)	bone	D	(73.0-303.0)	Elfving et al. (1978)
Meadow vole *Microtus sp.*	roadside	hair	D	235.6	Raymond & Forbes (1975)
" "	control	"	D	6.0	"
Mouse *Mus musculus*	Vermont	kidney	W	(0.27-0.51)	Schroeder et al. (1964)
" "	"	liver	W	(0.25-0.37)	"
" "	"	heart	W	(0.58-0.82)	"
" "	"	lung	W	0.33	"
" "	"	spleen	W	(0.53-0.70)	"
" "	Illinois (heavy traffic 10 m)	whole	D	6.9	Illinois (1974)
" "	" (medium " ")	"	D	3.4	"
" "	" (low " ")	"	D	4.0	"
" "	" (control 50 m)	"	D	4.6	"
" "	"	"	D	(2.0-6.8)	"
" "	"	intestine	D	(2.7-18.6)	"
" "	"	spleen	D	(2.1-12.1)	"
" "	"	liver	D	(1.6-2.9)	"
" "	"	lung	D	(1.7-3.4)	"
" "	"	kidney	D	(3.1-8.1)	"
" "	"	femur	D	(9.3-21.0)	"
" "	"	thigh	D	(2.8-5.9)	"

EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD: BEGIN SECTIONS HERE

Mouse *Mus musculus*	Montana (Pb smelter area)	kidney	W	(0.5-110.0)	Gordon (1972)
" "	" "	liver	W	(0.5-23.0)	"
White-tailed deer *Odocoileus virginianus*	United States	kidney	W	(0.0-1.4)	Schroeder & Balassa (1961)
" "	"	liver	W	(0.0-0.5)	"
" "	Tennessee	kidney	W	(0.16-3.6)	"
" "	Ohio	brain	W	(ND-2.91) 1.45±SD 1.01	Lynch (1973)
" "	"	hair	W	(ND-14.4) 5.92±SD 5.11	"
" "	"	kidney	W	(ND-6.27) 1.06±SD 1.6	"
" "	"	muscle	W	(ND-2.37) 0.95±SD 0.69	"
" "	"	liver	W	(ND-1.34) 0.74±SD 0.32	"
" "	"	metacarpal	W	(2.49-11.04) 4.82±SD 1.73	"
Rabbit *Oryctolagus cuniculus*	Michigan (breathed filtered air)	pelt	W	0.19±SD 0.1	Smith et al. (1970)
" "	" (breathed city air) (2.5 μg Pb/m^3)	"	W	0.20±SD 0.1	"
" "	" (controls)	liver	W	0.38±SD 0.27	"
" "	" "	lung	W	0.2±SD 0.18	"
" "	" "	kidney	W	0.14±SD 0.06	"
" "	" "	heart	W	0.25±SD 0.19	"
" "	" "	intestine	W	0.33±SD 0.37	"

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA, OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

PAGE NUMBER
EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET

Rabbit *Oryctolagus cuniculus*	Michigan (controls)	pelt	W	0.12±SD 0.08	Smith et al. (1970)
" "	" "	spleen	W	1.3±SD 0.8	"
" "	" "	muscle	W	0.08±SD 0.08	"
" "	" "	bone	W	0.47±SD 0.16	"
" "	Montana (near Pb smelter, wild, escaped)	liver	W	(2.6-7.7)	Gordon (1972)
" "	" " "	kidney	W	(3.1-19.0)	"
" "	"	muscle	W	0.5	Lewis (1972)
Sheep *Ovis aries*		wool		(10.0-30.0)	Dankwortt (1942)
" "	Bulgaria	Det. Pb in wool and cattle hair in areas with humans affected with nephritis			Ivanov et al. (1962)
" "		muscle	W	0.15	Schroeder & Balassa (1961)
" "		bone marrow	W	0.37	"
" "	California	muscle		(<0.03-0.25)	Goldsmith (1974)
" "	healthy	blood	W	0.14±0.01	Allcroft (1950)
" "	New Zealand (healthy)	"	W	(0.05-0.26) 0.20±SD 0.05	Ward et al. (1977a)
White-footed mouse *Peromyscus leucopus*	Illinois (heavy traffic 10 m)		D	2.5	Illinois (1974)
" "	" (medium " ")		D	2.6	"
" "	" (control 50 m)		D	2.7	"

EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD BEGIN SECTIONS HERE

White-footed mouse __Peromyscus leucopus__	Montana (in Pb smelter area)	kidney	W	(0.5-110.0)	Gordon (1972)
" "	" "	liver	W	(0.5-23.0)	"
" "	roadside	whole	D	4.4	Quarles et al. (1974)
" "	control	"	D	2.6	"
" "	New York (in old orchards treated with lead arsenate)	kidney	D	(9.7-14.6)	Elfving et al. (1978)
" "	" " "	liver	D	(2.1-5.7)	"
" "	" " "	bone	D	(28.0-81.0)	"
Deer mouse __Peromyscus maniculatus__	Illinois (heavy traffic 10 m)	whole	D	5.5	Getz et al. (1977)
" "	" (medium " ")	"	D	3.7	"
" "	" (low " ")	"	D	2.4	"
" "	" (control 50 m)	"	D	2.8	"
" "	"	"	D	(3.1-6.3)	"
" "	"	intestine	D	(4.3-19.2)	"
" "	"	spleen	D	(3.0-19.4)	"
" "	"	liver	D	(1.1-3.5)	"
" "	"	lung	D	(1.5-6.4)	"
" "	"	kidney	D	(1.8-9.0)	"
" "	"	femur	D	(5.7-24.6)	"
" "	"	thigh	D	(2.1-7.4)	"
" "	New England	whole	W	2.7±SD 0.13	Schlesinger & Potter (1974)

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA, OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

PAGE NUMBER
EPA-287 (Cin.)
(4-76)

Deer Mouse *Peromyscus maniculatus*	roadside	brain	D	(<0.57-0.84)	Mierau & Favara (1975) and Welch & Dick (1975)
" "	control	"	D	0.14	
" "	roadside	lung	D	<0.58	"
" "	"	liver	D	(0.92-3.29)	"
" "	control	"	D	1.06	"
" "	roadside	stomach	D	1.64	"
" "	"	kidney	D	(1.87-8.46)	"
" "	control	"	D	3.28	"
" "	roadside	muscle	D	0.49	"
" "	"	bone	D	(14.0-52.1)	"
" "	control	"	D	4.84	"
" "	roadside	hair	D	235.6	Raymond & Forbes (1975)
" "	control	"	D	6.0	"
Harbor seal *Phoca vitulina*	California			(0.1-3.2) 0.525	Mitre Corp. (1975)
" "	Great Britain	blood	W	0.1±0.1	Hamilton (1976)
" "	"	spleen	W	0.08±0.03	"
" "	"	heart	W	0.04±0.01	"
" "	"	muscle	W	0.1±0.05	"
" "	"	kidney	W	0.4±0.2	"
" "	"	liver	W	0.3±0.2	"
" "	W. Scotland	"	W	(0.2-1.5)	"
" "	Great Britain	"	W	2.31±SD 1.27	Roberts et al. (1976)

TYPING GUIDE SHEET

Harbor seal *Phoca vitulina*	Great Britain	kidney	W	1.17±SD 0.5	Roberts et al. (1976)
" "	"	spleen	W	1.18±SD 0.35	"
" "	"	brain	W	ND	"
" "	"	muscle	W	1.2±SD 0.3	"
" "	"	claw	W	4.0±SD 1.7	"
" "	"	rib	W	3.5±SD 2.5	"
" "	"	(mother) liver	W	2.40	"
" "	"	(foetus) liver	W	1.40	"
" "	"	(mother) kidney	W	1.19	"
" "	"	(foetus) kidney	W	1.31	"
Pine vole *Pitymys pinetorum*	New York (in old orchard treated with lead arsenate)	kidney	D	(27.0-30.0)	Elfving et al. (1978)
" "	" "	liver	D	(5.5-8.3)	"
" "	" "	bone	D	(306.0-401.0)	"
Orangutan *Pongo pygmaeus*	(in zoo ate 16.2% Pb arsenate roach wafers)	liver & kidney	W	1.89	Hausman et al. (1961)
Primates (23 species in captivity)	National Zoological Park, Wash. D.C., poisoned from Pb in paint	liver	W	(3.1-360.0)	Zook et al. (1972)
Raccoon *Procyon lotor*	Illinois	"		(1.0-32.0)	Sanderson & Thomas (1961)

EPA-287 (Cin.)
(4-76)

Raccoon *Procyon lotor*	Illinois	baculum	A	(0.32-2.2)	Illinois (1974)
Australian fruit bat *Pteropus poliocephalus*	National Zoological Park, Wash., D.C., poisoned from Pb in paint	liver	W	500.0	Zook et al. (1972)
Caribou *Rangifer caribou*		muscle	A	7.0 pCi/g Pb^{210}	Holtzman (1968)
" "		bone	W	0.05 pCi/g Pb^{210}	"
Reindeer *Rangifer tarandus*		muscle	A	11.0 pCi/g Pb^{210}	"
" "		bone	W	0.08 pCi/g Pb^{210}	"
" "	Sweden	muscle	D	0.060	Persson (1975)
" "	"	bone	D	10.0±1.0	"
" "	"	liver	D	(1.1-1.2)	"
" "	"	kidney	D	0.5	"
Brown rat *Rattus norvegicus*	Detroit, Michigan (urban)	blood	W	0.55±SE 0.04	Mouw et al. (1975)
" "	" "	liver	W	3.34±SE 0.45	"
" "	" "	kidney	W	22.7±SE 2.8	"
" "	" "	lung	W	1.24±SE 0.2	"
" "	" "	brain	W	1.11±SE 0.17	"
" "	" "	bone	W	200.0±SE 19.0	"
" "	" "	feces	W	178.0±SE 30.0	"

TYPING GUIDE SHEET
EPA-287 (Cin.) (4/76)

Brown rat __Rattus norvegicus__	near Ann Arbor, Michigan (rural)	blood	W	0.17±SE 0.02	Mouw et al. (1975)
" "	" "	liver	W	0.44±SE 0.09	"
" "	" "	kidney	W	1.14±SE 0.23	"
" "	" "	lung	W	0.24±SE 0.03	"
" "	" "	brain	W	0.21±SE 0.06	"
" "	" "	bone	W	10.3±SE 1.9	"
" "	" "	feces	W	46.6±SE 6.0	"
Common rat __Rattus rattus__	(laboratory)	liver	W	(0.0-0.83)	Schroeder & Balassa (1961)
White harvest mouse __Reithrodontomys megalotis__	Illinois (heavy traffic 10 m)	whole body	D	10.8	Getz et al. (1977)
" "	" (medium " ")	"	D	3.8	"
" "	" (low " ")	"	D	3.1	"
" "	" (control 50 m)	"	D	3.1	"
" "	"	"	D	(2.7-12.3)	"
" "	"	intestine	D	(3.5-17.8)	"
" "	"	spleen	D	(5.6-9.2)	"
" "	"	liver	D	(1.1-4.7)	"
" "	"	lung	D	(4.2-20.9)	"
" "	"	kidney	D	(2.1-4.8)	"
" "	"	femur	D	(18.4-109.5)	"
" "	"	muscle	D	(4.4-27.5)	"

TYPING GUIDE SHEET

Gray squirrel *Sciurus carolinensis*	United States	kidney	W	1.4	Schroeder & Balassa (1961)
" "	"	heart	W	0.5	"
Red squirrel *Sciurus hudsonicus*	"	liver	W	(1.37-2.08)	"
Common shrew *Sorex araneus*	Wales (abandoned PbZn mines)	whole	D	11.2	Roberts et al. (1978)
" "	" (non-polluted control)	"	D	0.88	"
Shrew *Sorex sp.*	roadside	hair	D	235.6	Raymond & Forbes (1975)
" "	control	"	D	6.0	"
Ground squirrel *Spermophilus tridecemlineatus*	Illinois (medium traffic 10 m)	whole body	D	8.2	Getz et al. (1977)
" "	" (control 50 m)	"	D	4.3	"
Pig *Sus scrofa*	United States	muscle	W	0.16	Schroeder & Balassa (1961)
" "	"	liver	W	(0.26-0.82)	"
" "	"	kidney	W	(0.26-0.98)	"
" "	Montana	"	W	2.7	Gordon (1972)
" "	"	liver	W	2.6	"
" "	"	bone	W	73.0	"
" "	"	heart	W	0.1	Lewis (1972)

EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET

Pig *Sus scrofa*		muscle		(0.54-1.33)	Dedolph et al. (1970)
" "		heart		(8.04-9.65)	"
" "		kidney		(1.06-1.54)	"
" "		liver		(5.51-6.02)	"
" "	California	muscle		(<0.03-0.38)	Goldsmith (1974)
Rabbit *Sylvilagus floridanus*	wild	kidney	W	2.91	Schroeder & Balassa (1961)
" "	"	liver	W	0.57	"
" "	Ohio	brain	W	(<0.03-12.22) 9.64±SD 3.52	Lynch (1973)
" "	"	embryo	W	0.625	"
" "	"	femur	W	(2.49-11.92) 7.77±SD 2.48	"
" "	"	kidney	W	(<0.03-3.92) 1.35±SD 0.88	"
" "	"	leg muscle	W	(<0.03-8.63) 1.92±SD 0.0	"
" "	"	liver	W	(<0.03-16.76) 5.92±SD 4.01	"
" "	"	testes	W	0.362	"
Mountain cottontail *Sylvilagus nuttalii*	Montana (near Pb smelter area)	kidney	W	2.3	Gordon (1972)
" "	" "	liver	W	3.6	"
Red fox *Vulpes sp.*	Sweden	kidney		15.0	Erne & Borg (1969)

Sea lion *Zalophus californianus*	Detroit zoo (lead poisoned)	liver & kidney	W	549.0	in Zook et al. (1972)
" "	California	humerus		34.2	Braham (1973)
" "	"	fat		0.3	"
Peromyscus maniculatus *Eutamias townsendii* *Microtus* sp. *Sorex* sp.	Oregon (by highway)	hair (washed)	D	133.08±21.31	Raymond & Forbes (1975)
" " " "	"	hair (unwashed)	D	235.63±36.80	"
" " " "	" (park 0.5 mi from road)	hair (washed)	D	11.16±3.22	"
" " " "	" "	hair (unwashed)	D	25.05±6.69	"
" " " "	Wilderness (Mt. Hood)	"	D	6.02±2.27	"
" " " "	"antique hair, (1913-1915)"	"	D	29.89±8.62	"
" " " "	" "	hair (washed)	D	17.72±4.30	"

BEGIN FIRST LINE OF TEXT HERE
TYPING GUIDE SHEET
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD, BEGIN SECTIONS HERE

LEAD IN BIRDS(1)

Species	Locality	Tissue	Analysis PPM (2)	Authority
Coopers hawk *Accipiter cooperii*	Arizona & New Mexico	egg	W 0.193±SE 0.044	Snyder et al. (1973)
" "	"	"	W 19.6 (max.)	"
" "	"	"	W <0.04	"
Goshawk *Accipiter gentilis*	Sweden (1864-1939)	feather	D 10.8±1.2	Westermark (1969)
" "	Sweden (1940-1965)	"	D 5.3±1.1	"
Wood duck *Aix sponsa*	Maryland	tibia	W (2.0-8.0)4.4	Bagley & Locke(1967)
" "	"	liver	W (0.7-2.0)1.5	"
Pintail *Anas acuta*	"	"	W 0.9	"
Green wing teal *Anas carolinensis*	"	"	W (1.5-1.6)1.5	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ±Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD. BEGIN SECTIONS HERE
BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

Mallard __Anas platyrhynchos__	Maryland	tibia	W	(6.0-14.0) 10.0	Bagley & Locke (1967)
" "	"	liver	W	(0.3-2.0)0.9	"
" "	"	muscle	W	(2.2-55.8)	Benson et al. (1974)
" "	"	brain	W	(4.7-32.6)6.5	"
" "	Canada	feather	D	(<3.0-6.0) 4.0	Kelsall (1970a)
" "	" (fed Pb)	liver		(25.0-46.0)	Stickel (1969)
" "	Sweden	"		(5.0-45.0)	Erne & Borg (1969)
" "	"	kidney		(4.0-99.0)	"
" "	Colorado	whole	W	0.88	Haegele et al. (1974)
" "	"	egg	W	0.88	"
" "	"	shell	W	0.52	"
" "	"	bone	W	0.64	"
" "	New York	liver		(<2.0-3.96)	Baker et al. (1976)
" "	"	muscle		(<2.0-3.88)	"
" "	(fed 100 ppm Pb)	bone	W	9.6	Haegele et al. (1974)
" "	"	egg	W	1.34	"
" "	(control)	whole	W	0.88	"
" "	"	bone	W	0.64	"
" "	"	egg	W	0.88	"
" "	Sweden "dieoff"	liver	W	(5.0-45.0)	Erne & Borg (1969)

EPA-287 (Cin)
(4-76)

Black duck *Anas rubripes*	Maryland	liver	W	(0.4-0.6)0.5	Bagley & Locke(1967)
" "	New York	"		(<2.0-6.96)	Baker et al. (1976)
" "	"	muscle		(<2.0-7.01)	"
" "	Canada	feather	D	(<3.0-3.0)	Kelsall (1970)
" "	" "dieoff"	liver	W	25.0	Locke & Bagley (1967)
White-fronted goose *Anser albifrons*	Canada	feather	D	(2.0-7.0)4.1	Kelsall (1970a)
Domestic goose *Anser cygnoides*	Maryland	liver	W	(0.3-0.8)0.6	Bagley & Locke (1967)
Great blue heron *Ardea herodias*	Maryland	"	W	0.7	"
" "	Ohio	muscle	W	0.34	Hoffman & Curnow (1973)
Lesser scaup *Aythya affinis*	Canada	feather	D	(<3.0-4.0)	Kelsall (1970a)
Red head *Aythya americana*	Idaho	muscle	W	(3.9-5.7)	Benson et al. (1974)
Greater scaup *Aythya marila nearctica*	New York	liver		(<2.0-10.0)	Baker et al. (1976)
" " "	"	muscle		(<2.0-2.0)	"
" " "	"	brain		<2.0	"
Canvasback *Aythya valisineria*	Maryland	liver	W	0.5	Bagley & Locke (1967)

Canvasback *Aythya valisineria*	New York	liver		(<2.0-12.6)	Baker et al. (1976)
" "	"	muscle		<2.0	"
" "	"	brain		(<2.0-12.6)	"
Ruffled grouse *Bonasa umbellus*		liver	W	0.56	Schroeder & Balassa (1961)
" "	(found dead)	kidney	W	26.17	"
Brant *Branta bernicla*	Maryland	liver	W	(0.9-1.9)1.3	Bagley & Locke (1967)
Canada goose *Branta canadensis*	"	"	W	(0.3-0.8)0.5	"
" "	"	tibia	W	(0.2-4.0)2.0	"
" "	"die off"	liver	W	(1.0-53.0)	Bagley et al. (1967)
" "	"	"	W	(12.0-44.0) 26.0	Locke et al. (1967)
" "	"	"	W	(10.0-45.0) 21.0	"
" "	New York	"		<2.0	Baker et al. (1976)
" "	"	muscle		<2.0	"
" "	"	brain		<2.0	"
Horned owl *Bubo virginianus*	Idaho	muscle	W	1.9	Benson et al. (1974)
" "	"	heart	W	5.0	"
" "	"	kidney	W	10.6	"
" "	"	brain	W	4.3	"
" "	"	liver	W	2.8	"
" "	"	bone	W	2.0	"

Horned owl Bubo virginianus	Idaho	whole	W	4.4	Benson et al. (1974)
Goldeneye Bucephala clangula	New York	muscle	W	(6.3-8.8)	Baker et al. (1976)
" "	"	"		<2.0	"
" "	"	liver		<2.0	"
Common egret Casmerodius albus	Florida	egg	W	(<0.2-0.4)	Ogden et al. (1974)
Snow goose Chen hyperborea	Maryland	liver	W	(0.8-1.8) 1.2	Bagley & Locke (1967)
" "	"	tibia	W	(4.0-26.0) 13.0	"
Pigeon Columba livia	Philadelphia	urban pigeons had higher levels than rural			Tansy & Roth (1970)
" "	Tokyo (crowded temple near streets)	femur	W	31.6±SD 16.0	Ohi et al. (1974)
" "	" " "	kidney	W	2.8±SD 2.4	"
" "	" (bus terminal)	femur	W	24.8±SD 20.9	"
" "	"	kidney	W	3.4±SD 3.5	"
" "	" (quiet temple)	femur	W	16.5±SD 23.3	"
" "	" "	kidney	W	1.7±SD 2.8	"
" "	" (suburban rural zoo)	femur	W	3.2±SD 6.9	"
" "	" "	kidney	W	0.8±SD 1.1	"
" "	" (rural farm)	femur	W	2.0±SD 3.0	"
" "	" "	kidney	W	0.4±SD 0.3	"
" "	Pigeon is a good bioindicator for Pb.				"

TYPING GUIDE SHEET

Swan Cygnus olor	Sweden	liver		(0.0->40.0)	Erne & Borg (1969)
" "	"	kidney		(0.0-350.0)	"
Dusky grouse Dendragapus obscurus	United States	liver	W	1.1	Bagley & Locke (1967)
" "	"	tibia	W	3.0	"
White ibis Eudocinnus albus	Florida	egg	W	(<0.2-0.4)	Ogden et al. (1974)
" "	"	muscle	W	9.0	"
Prairie falcon Falco mexicanus	Idaho	"	W	3.1	Benson et al. (1974)
" "	"	heart	W	3.9	"
" "	"	kidney	W	6.0	"
" "	"	brain	W	12.9	"
" "	"	liver	W	17.4	"
" "	"	bone	W	36.0	"
" "	"	whole	W	13.2	"
American kestral Falco sparverius	New York	egg	W	0.72±SD 0.34	Lincer & McDuffie (1974)
Kestrel Falco tinnunculus	Denmark 1874-1953	egg shell	D	(0.89-4.33) med. 1.73	Grandjean (1976)
" "	" 1972-1974	"	D	(1.02-4.77) med. 2.13	"
" "	" (urban)	"	D	(2.38-4.77) med. 2.80	"
" "	" (rural)	"	D	(1.02-2.19) med. 1.52	"

EPA-287 (Cin.) (4-76)

TYPING GUIDE SHEET

American coot *Fulica americana*	Maryland	liver	W	2.0	Bagley & Locke (1967)
" "	"	tibia	W	3.0	"
Chicken *Gallus gallus*	California	muscle		(<0.3-0.42)	Mitre Corp. (1975)
" "	"	egg		(0.02-0.12)	"
" "		"		(0.003-0.25)	deTreville (1964)
" "		muscle		(0.0-0.03)	"
" "	Montana	"	W	0.1	Lewis (1972)
" "		"		(0.0-0.03)	Bagchi (1940)
" "		egg		(0.24-0.25)	"
" "		"		(0.003-0.12)	Kehoe (1940)
" "	New England	"	W	(0.0-0.15)	Schroeder & Balassa (1961)
" "	"	heart	W	1.71	"
Sandhill crane *Grus canadensis*	United States	liver	W	0.7	Bagley & Locke (1967)
Peruvian condor *Gymnogyps sp.*	(fed shot animals)		W	38.0	Stickel (1969)
Bald eagle *Haliaeetus leucocephalus*	United States	"	W	0.6	Bagley & Locke (1967)
" "	Maryland (ingested 2 Pb shot)	kidney	W	5.0	Mulhern et al. (1970)
" "	"	liver	W	21.0	"
" "	"	pancreas	W	22.0	"

Bald eagle Haliaeetus leucocephalus	Wisconsin, Maine, Florida	egg	W	ND	Kranz et al. (1970)
Rock ptarmigan Lagopus mutus	Iceland	liver	W	(2.0-3.0)2.1	Bagley & Locke (1967)
" "	"	tibia	W	(3.0-12.0)7.1	"
Herring gull Larus argentatus	Bristol Channel	egg	W	(<0.1-0.16)	Peden et al. (1973)
Lesser blackbacked gull Larus fuscus fuscus	"	"	W	<0.1	"
Hooded merganser Lophodytes cucullatus	Maryland	liver	W	(0.6-1.2)0.9	Bagley & Locke (1967)
Widgeon Mareca americana	Idaho	muscle	W	4.3	Benson et al. (1974)
White-winged scoter Melanitta deglandi	New York	liver		<2.0	Baker et al. (1976)
" "	"	muscle		(<2.0-14.0)	"
White-winged scoter Melanitta fusca	United States	liver	W	(0.3-1.8)0.8	Bagley & Locke (1967)
Surf scoter Melanitta perspicillata	"	"	W	(0.4-2.0)0.9	"
" "	"	tibia	W	(2.0-12.0)3.8	"
Turkey Meleagris gallopavo		muscle	D	(2.93-3.35)	Dedolph et al. (1970)
" "		heart	D	(6.49-7.83)	"
" "		kidney	D	(8.98-10.12)	"
" "		liver	D	(10.72-11.26)	"
" "		egg		0.02	Kehoe (1960)

Cowbird *Molothrus ater*	United States	liver	W	(2.0-5.0)3.7	Bagley & Locke (1967)
American scoter *Oidemia nigra americana*	"	"	W	(0.3-0.9)0.5	"
" " "	"	tibia	W	(2.0-19.0)6.0	"
Whistling swan *Olor columbianus*	"	liver	W	0.8	"
" "	"	tibia	W	8.0	"
" "	Idaho (found dead)	bone		(<1.0-94.0) 40.38	Benson et al. (1976)
" "	" "	brain		(<1.0-39.0)8.92	"
" "	" "	feather		(<1.0-84.0)27.92	"
" "	" "	muscle		(<1.0-73.0)11.00	"
" "	" "	heart		(<1.0-28.0)8.67	"
" "	" "	kidney		(16.0-113.0)45.14	"
" "	" "	liver		(7.0-43.0)23.31	"
" "	" "	spleen		(<1.0-185.0)74.50	"
Ruddy duck *Oxyura jamaicensis*	New Jersey	adult liver	W	(0.19-0.61)	White & Kaiser (1976)
" "	"	immature "	W	(0.21-0.32)	"
" "	"	whole	W	0.35±SE 0.06	"
Osprey *Pandion haliaetus*	United States	liver	W	1.5	Bagley & Locke (1967)
" "	"	tibia	W	9.0	"
" "	Sweden (1890-1939)	feather	D	5.8±0.5	Westermark (1969)
" "	" (1940-1965)	"	D	7.9±2.5	"
" "	Florida	egg	W	<0.2	Ogden et al. (1974)

TYPING GUIDE SHEET

House sparrow *Passer domesticus*	Illinois rural	feather	D	27.0	Getz et al. (1977a)
" "	" urban	"	D	158.3	"
" "	" rural	intestine	D	2.3	"
" "	" urban	"	D	26.2	"
" "	" rural	liver	D	0.6	"
" "	" urban	"	D	12.0	"
" "	" rural	lung	D	0.9	"
" "	" urban	"	D	6.9	"
" "	" rural	kidney	D	3.5	"
" "	" urban	"	D	33.9	"
" "	" rural	femur	D	16.9	"
" "	" urban	"	D	130.4	"
" "	" rural	muscle	D	0.9	"
" "	" urban	"	D	2.1	"
Brown pelican *Pelecanus occidentalis*	United States	liver	W	(0.4-1.3) 0.8	Bagley & Locke (1967)
" "	Florida	egg	W	<0.2	Ogden et al. (1974)
" "	South Carolina	"	W	(0.010-0.11) 0.029	Blus et al. (1977)
" "	Florida	"	W	(0.013-0.045) 0.025	"
" "	" & Georgia	liver	W	(0.10-0.27)	"
Cormorant *Phalacrocorax auritus*	Florida	egg	W	(0.2-0.4)	Ogden et al. (1974)

EPA-287 (Cin)
(4-76)

Ring-necked pheasant *Phasianus colchicus*	United States	liver	W	(0.2-1.0) 0.5	Bagley & Locke (1967)
" "		breast muscle		42.0	Hunter & Rosen (1965)
" "		liver		143.0	"
" "	Illinois (healthy)	"	W	(0.09-0.84)	Nat. Acad. Sci. (1972)
" "	" "	kidney	W	(0.11-0.27)	"
" "	" (dying)	muscle	W	42.0	"
" "	" "	liver	W	169.0	"
Crested grebe *Podiceps cristatus*	Sweden (1893-1939)	feather	D	2.0	Westermark (1969)
" "	"(1939-1966)	"	D	2.4	"
Grackle *Quiscalus quiscula*	Illinois rural	feather	D	36.0	Getz et al. (1977a)
" "	" urban	"	D	81.4	"
" "	" rural	intestine	D	1.4	"
" "	" urban	"	D	10.2	"
" "	" rural	liver	D	2.5	"
" "	" urban	"	D	12.1	"
" "	" rural	lung	D	2.3	"
" "	" urban	"	D	2.7	"
" "	" rural	kidney	D	3.5	"
" "	" urban	"	D	13.5	"
" "	" rural	femur	D	21.5	"
" "	" urban	"	D	62.8	"
" "	" rural	muscle	D	0.8	"
" "	" urban	"	D	1.4	"

TYPING GUIDE SHEET

King rail *Rallus elegans*	Maryland	liver	W	2.0	Bagley & Locke (1967)
Shoveler *Spatula clypeata*	"	"	W	(1.0-1.2)1.1	"
Starling *Sturnus vulgaris*	United States (bullet in neck)	"	W	2.12	Schroeder & Balassa (1961)
" "	" (1971)	body without skin, beak, feet & wing	W	(0.12-6.60) 1.31±SE 0.190	Martin & Nickerson (1973)
" "	" (1973)	"	W	(<0.10-3.20) 0.850±SE 0.091	White et al. (1977)
" "	" urban (1973)	"	W	(<0.10-3.20) 1.088±SE 0.140	"
" "	" rural "	"	W	(<0.10-2.40) 0.681±0.110	"
" "	Illinois rural	feather	D	36.0	Getz et al. (1977a)
" "	" urban	"	D	225.1	"
" "	" rural	intestine	D	1.4	"
" "	" urban	"	D	6.0	"
" "	" rural	liver	D	2.5	"
" "	" urban	"	D	16.1	"
" "	" rural	lung	D	2.3	"
" "	" urban	"	D	5.2	"
" "	" rural	kidney	D	3.5	"
" "	" urban	"	D	98.5	"
" "	" rural	femur	D	21.5	"
" "	" urban	"	D	213.0	"

EPA-287 (Cin.)
(4-76)

Starling *Sturnus vulgaris*	Illinois rural	muscle	D	0.8	Getz et al. (1977a)
" "	" urban	"	D	2.4	"
Robin *Turdus migratorius*	United States	liver	W	1.10	Schroeder & Balassa (1961)
" "	Illinois rural	feather	D	25.3	Getz et al. (1977a)
" "	" urban	"	D	79.7	"
" "	" rural	intestine	D	3.2	"
" "	" urban	"	D	24.5	"
" "	" rural	liver	D	2.4	"
" "	" urban	"	D	10.5	"
" "	" rural	lung	D	2.2	"
" "	" urban	"	D	10.3	"
" "	" rural	kidney	D	7.3	"
" "	" urban	"	D	25.0	"
" "	" rural	femur	D	41.3	"
" "	" urban	"	D	133.7	"
" "	" rural	muscle	D	1.0	"
" "	" urban	"	D	1.2	"
Mourning dove *Zenaidura macroura*	Maryland	liver	W	(0.4-7.0) 3.3	Bagley & Locke (1967)
"Shore birds"	Chicago (with soluble lead poisoning)	present in liver	2,500 sick or dying		Hoger (1961)
"Geese, ducks, swan"		Over 1 million die/yr. due to lead shot poisoning. 2-3% of waterfowl in United States lost/yr.			Stickel (1969)

"Parrots" 8 species	National Zoological Park, Washington, D.C. (lead poisoning from paint)	W	(3.1-15.0)	Zook et al. (1972)

LEAD IN REPTILES AND AMPHIBIA(1)

Species	Locality	Tissue	Analysis(2) PPM	Authority
REPTILES				
Alligator *Alligator mississipiensis*	Florida	egg	W ND	Ogden et al. (1974)
Crocodile *Crocodilus acutus*	"	"	W (0.2-0.5)	"
AMPHIBIA				
Pickerel frog *Rana pipiens*	New England	kidney	W 3.4	Schroeder & Tipton (1968) cited in Ireland (1977)
Toad *Xenopus laevis*	Wales (fed worms uncontaminated by Pb)	bone	W 5.00±SE 0.20	Ireland (1977)
" "	" "	skin	W 0.81±SE 0.17	"
" "	" "	muscle	W 0.59±SE 0.04	"
" "	" "	kidney	W 3.40±SE 0.50	"
" "	" "	liver	W 1.13±SE 0.08	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Toad *Xenopus laevis*	Wales (fed worms from Pb contam. soil)	bone	W	23.97±SE 6.09	Ireland (1977)
" "	" "	skin	W	2.98±SE 0.30	"
" "	" "	muscle	W	1.14±SE 0.08	"
" "	" "	kidney	W	15.07±SE 1.82	"
" "	" "	liver	W	7.80±SE 1.78	"
Frog *Rana sp.*	Missouri (tailings pond)	tadpole, whole	D	4,139.0	Gale et al. (1976)
" "	" (downstream from tailings pond,)km:				
" "	" " 1	"	D	552.0	"
" "	" " 25	"	D	14.0	"
" "	" " 65	"	D	37.0	"
" "	" (tailings pond)	eviscerated body	D	93.0	"
" "	" "	gut	D	7,329.0	"
" "	" "	liver & heart	D	22.0	"

LEAD IN MARINE FISH (1)

Species	Locality	Tissue	Analysis (2) PPM	Authority
Sand lance Ammodytes tobianus	Great Britain	muscle	D <0.2	Stevens & Brown (1974)
Atlantic wolffish Anarchichas lupus	W. Greenland	"	W (0.01-0.71) 0.15	Bollingberg (1975)
" "	"	liver	W (0.05-0.65)0.23	"
Deepbody anchovy Anchoa compressa	California	muscle	D trace	Emerson et al. (1976)
Bay anchovy Anchoa mitchelli	N.W. Atlantic		D 6.1	Windom (1972)
" "	Texas	whole	W 1.4	Sims & Presley (1976)
European eel Anguilla anguilla	Great Britain	muscle	W (0.25-1.82)	Warfe & Van Den Broek (1977)
" "	"	liver	W (0.84-5.29)	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

American eel *Anguilla rostrata*	N.W. Atlantic		D	<0.5	Windom (1972)
Blue hake *Antimora rostrata*	Mid-Atlantic Bight	muscle	W	(<0.80-1.0)	Greig et al. (1976)
" "	"	liver	W	(<0.70-1.20)	"
Sea catfish *Arius felis* (=*Galeichthys felis*)	S. Florida	whole	W	0.5	Ogden et al. (1974)
Garfish *Belone belone*	Great Britain	muscle	D	<0.2	Stevens & Brown (1974)
Lanternfish *Bolinichthys indicus*	Bermuda	midsection	D	2.0	Gibbs et al. (1974)
Menhaden, machete *Brevoortia maculata*	Peru	whole		(0.0-0.21) 0.11	Echegaray (1974)
Menhaden *Brevoortia patronus*	Texas	"	D	1.0	Sims & Presley (1972)
Pacific porgy *Calamus brachysomus*	Peru	"		0.03	Echegaray (1974)
Crevalle jack *Caranx hippos*	S. Florida		W	(0.2-0.4)	Ogden et al. (1974)
Lanternfish *Ceratoscopelus warmingi*	Bermuda	midsection	D	<0.5	Gibbs et al. (1974)
Atlantic herring *Clupea harengus harengus*			D	(0.3-0.6)	Vinogradov (1953)
" " "			W	(0.1-0.2)	"

TYPING GUIDE SHEET

Atlantic herring *Clupea harengus harengus*	Norway	whole	D	(3.2-12.2)	Andersen et al. (1973)
" " "			W	0.3	Schroeder & Balassa (1961)
Bearded rockling *Ciliata mustela*	Great Britain	whole	D	22.0±SD 0.72	Hardisty et al. (1974)
Conger eel *Conger sp.*	N.W. Atlantic		D	2.0	Windom (1972)
" "	"		W	0.5	"
Wrasse *Ctenolabrus rupestris*	Sweden		D	0.4	Noddack & Noddack (1940)
Shiner perch *Cymatogaster aggregata*	S. California	muscle	D	0.6	Emerson et al. (1976)
White sea trout *Cynoscion arenarius*	Texas	"	D	1.0	Sims & Presley (1976)
" "	"	"	D	(0.6-1.5) 1.0	Horowitz & Presley (1977)
" "	"	skin	D	(2.9-3.7)3.3	"
" "	"	air bladder	D	0.6	"
" "	"	liver	D	0.6	"
Spotted sea trout *Cynoscion nebulosus*	Texas	muscle	D	<0.2	Sims & Presley (1976)
Lanternfish *Diaphus mollis*	Bermuda	midsection	D	3.0	Gibbs et al. (1974)

TYPING GUIDE SHEET

Porgy Diplodus vulgaris	Israel	muscle	D	0.3	Roth & Hornung (1977)
Adriatic anchovy Engraulis encrasicholus	Adriatic Sea	skin	W	(1.6-6.5)4.8	Gilmartin & Revelante (1975)
" "	"	gill	W	(2.6-4.3)3.6	"
" "	"	muscle	W	(ND-1.2)0.3	"
" "	"	digestive system	W	(ND-1.3)0.5	"
" "	"	liver	W	(ND-11.0)1.2	"
" "	"	whole	W	(0.51-1.37)1.0	"
Northern anchovy Engraulis mordax	California	skin	W	3.0	Knauer (1972)
" "	"	gill	W	4.8	"
" "	"	muscle	W	0.2	"
" "	"	digestive system	W	1.2	"
" "	"	liver	W	ND	"
" "	"	gonad	W	0.2	"
" "	"	muscle	D	0.3	Emerson et al. (1976)
Peruvian anchovy, anchovetta Engraulis ringens	California	whole	A	(40.0-50.0)	Goldberg (1962)
" "	"	"	D	(9.0-11.0)	"
Grouper Epinephelus aeneus	Israel	muscle	D	(0.04-0.3)	Roth & Hornung (1977)
Grouper, Merou blanc Epinephelus guaza	"	"	D	0.3	"

EPA-287 (Cin.) (4-76)

TYPING GUIDE SHEET

Red hind Epinephelus guttatus	Bahama Islands	muscle		(<0.05-0.17) 0.152±SD 0.156	Taylor & Bright (1973)
Nassau grouper Epinephelus striatus	"	"		(<0.05-0.16) 0.09±SD 0.09	"
" "	"	liver		<0.05	"
Little tunny Euthynnus alletteratus	N.W. Atlantic	muscle	D	1.9	Windom (1972)
" "	"	liver	D	1.5	"
Skipjack tuna Euthynnus pelamis	Costa Rica	muscle	D	0.254	Chow (1972)
" "	"	liver	D	0.351	"
Atlantic cod Gadus morhua	Norway	muscle	D	(ND-2.0)	Stenner & Nickless (1974)
" "	"	gill	D	(5.0-12.0)	"
" "	"	liver	D	(ND-3.0)	"
" "	"	stomach	D	8.0	"
" "	N.W. Atlantic	muscle	W	(0.18-0.6) 0.33±SD 0.14	Zook et al. (1976)
" "	Iceland	"	W	(0.0-0.52) 0.32±SD 0.17	"
White croaker Genyonemus lineatus	California	"	D	0.2	Emerson et al. (1976)
Wrasse, doncella Halichoeres dispilus	Peru			0.0	Echegaray (1974)
Halosaurian Halosauropsis macrochir	Mid-Atlantic Bight	"	W	(<0.7-0.8)	Greig et al. (1976)

EPA-287 (Cin.)
(4-76)

Pacific halibut *Hippoglossus stenolepis*	Alaska	muscle	W	(0.0-0.97) 0.56±SD 0.31	Zook et al. (1976)
Longspine squirrelfish *Holocentrus rufus*	Puerto Rico		D	(7.8-16.0) 11.7	Lowman et al. (1967)
" "	"		W	(2.9-5.4)4.4	"
" "	"		D	(9.1-16.0)	"
" "	"		W	(4.5-5.4)	"
Lanternfish *Hygophum hygomi*	Bermuda	mid-section	D	(3.1-3.7)	Gibbs et al. (1974)
" "	preserved 1972		D	(1.3-6.9)	"
" "	" 1969		D	(15.0-18.0)	"
" "	ethyl alcohol 1914		D	130.0?	"
" "	" 1885		D	310.0?	"
" "	Mid-Atlantic Bight	whole	W	(<0.6-1.0)	Greig et al. (1976)
Pinfish *Lagodon rhomboides*	S. Florida	"	W	(0.2-0.5)	Ogden et al. (1974)
Porbeagle *Lamna nasus*	Great Britain		D	<0.2	Stevens & Brown (1974)
Lanternfish *Lampanyctus photonotus*	Bermuda	mid-section	D	0.5	Gibbs et al. (1974)
Lanternfish *Lampanyctus pusillus*	"	"	D	3.3	"
Lapadogaster gouanii			A	40.0	Vinogradov (1953)
Splendid ponyfish *Leiognathus splendens*	Thailand	muscle	W	0.09	Huschenbeth & Harms (1975)

TYPING GUIDE SHEET

Spot Leiostomus xanthurus	Texas	muscle	D	<0.6	Sims & Presley (1976)
Scabbardfish Lepidopus caudatus	Spain & Portugal		D	ND	Stenner & Nickless (1975)
Yellowtail flounder Limanda ferruginea	N.W. Atlantic	muscle	W	(0.27-0.91) 0.53±SD 0.21	Zook et al. (1976)
" "	Long Island	"	W	(<0.2-0.8)	Greig & Wenzloff (1977)
" "	"	liver	W	(<0.2-1.2)	"
Grey mullet Liza ramada	Great Britain	whole	D	18.8±SD 1.57	Hardisty et al. (1974a)
Lanternfish Lobiachia dofleini	Bermuda	mid-section	D	3.3	Gibbs et al. (1974)
Red snapper Lutjanus campechanus	Gulf of Mexico	muscle	W	(0.16-0.82) 0.45±SD 0.23	Zook et al. (1976)
Gray snapper Lutjanus griseus	S. Florida	whole	W	(0.2-1.5)	Ogden et al. (1974)
Black marlin Makaira ampla	Australia	muscle	W	(0.1-0.9) 0.6±SE 0.021	Mackay et al. (1975)
" "	"	liver	W	(0.4-1.1) 0.7±SE 0.031	"
Blue marlin Makaira nigricans	Japan	muscle	W	(0.07-0.35) 0.16±0.08	Nishigaki et al. (1974)
Haddock Melanogrammus aeglefinus	N.W. Atlantic	"	W	(0.10-0.95) 0.59±SD 0.26	Zook et al. (1976)

Whiting *Merlangius merlangus*	Great Britain	whole	D	24.0±SD 0.98	Hardisty et al. (1974a)
" "	"	muscle	W	(0.18-0.46)	Wharfe & Van Den Broek (1977)
" "	"	liver	W	(0.25-1.54) 0.89	"
" "	"	gut wall	W	(0.20-0.67)0.45	"
Silver hake, whiting *Merluccius bilinearis*	N.W. Atlantic	muscle	W	(0.33-0.74) 0.51±SD 0.15	Zook et al. (1976)
Hake *Merluccius merluccius*	Israel	"	D	(2.6-4.8)	Roth & Hornung (1977)
Hake *Merluccius peruanus*	Peru			(0.11-0.12) 0.12	Echegaray (1974)
Pacific hake *Merluccius productus*	Washington	muscle	W	(0.12-0.76) 0.38±SD 0.22	Zook et al. (1976)
Atlantic croaker *Micropogon undulatus*	Texas	whole	D	<0.3	Sims & Presley (1976)
" "	"	muscle	D	<0.8	Horowitz & Presley (1977)
" "	"	skin	D	8.0	"
Dover sole *Microstomus pacificus*	S. California	muscle	D	(<1.1-1.3)	McDermott et al. (1976)
" "	"	gonad	D	<1.0	"
" "	"	liver	D	(4.6-5.0)	"
" "	" (contaminated area)	muscle	W	(0.1-7.0)	Fowler et al. (1975)

Planehead filefish *Monocanthus hispidus* (=*Stephanolepsis hispidus*)	Mid-Atlantic Bight	whole	W	(1.0-1.07)	Greig et al. (1976)
Striped bass *Morone saxatilis*	N.W. Atlantic	muscle	W	2.8	Windom (1972)
Striped mullet *Mugil cephalus*	"	"	D	0.5	"
" "	Peru	whole		(0.0-0.09) 0.03	Echegaray (1974)
Silver mullet *Mugil curama*	Florida	"	W	(0.2-0.6)	Ogden et al. (1974)
Goatfish *Mullus barbatus*	Israel	muscle	D	(4.2-6.4)	Roth & Hornung (1977)
Smooth dogfish *Mustelus canis*	Long Island	"	W	<0.8	Greig & Wenzloff (1977)
" "	"	liver	W	<0.8	"
Smoothhound shark *Mustelus mustelus*	Spain & Portugal	muscle	D	ND	Stenner & Nickless (1975)
" "	"	gill	D	ND	"
Smoothhound shark, tollo *Mustelus sp.*	Peru	whole		(0.06-0.16)	Echegaray (1974)
Scamp *Mycteroperca phenax*	Bahama Islands	muscle		(0.12-0.73) 0.29±SD 0.22	Taylor & Bright (1973)
Tiger grouper *Mycteroperca tigris*	"	"		(<0.05-0.18) 0.06±SD 0.06	"
" "	"	liver		<0.05	"

Yellowfin grouper *Mycteroperca venenosa*	Bahama Islands	muscle		(<0.05-0.18)	Taylor & Bright (1973)
Nematonurus armatus	Mid-Atlantic Bight	muscle	W	(<0.7-1.0)	Greig et al. (1976)
" "	"	liver	W	(<1.0-1.6)	"
Redspot threadfin bream *Nemipterus peronii*	Thailand	muscle	W	0.13	Huschenbeth & Harms (1975)
Threadfin bream *Nemipterus sp.*	"	"	W	(0.06-0.10)	"
Yellowfin tuna *Neothunnus macropterus*	California	heart	A	90.0	Goldberg (1962)
" "	"	skin	A	170.0	"
" "	"	blood	A	150.0	"
" "	Japan	muscle	W	(0.09-0.19) 0.13±0.08	Nishigaki et al. (1974)
Lanternfish *Notoscopelus caudisponosus*	Bermuda	midsection	D	(3.0-3.2)	Gibbs et al. (1974)
Pejerrey *Odontesthea regia*	Peru			(0.0-0.49)	Echegaray (1974)
Silver pomfret *Pampus argenteus*	Thailand	muscle	D	<0.01	Huschenbeth & Harms (1975)
Kelp bass *Paralabrax clathratus*	California	"	D	(1.1-2.1)	Stapleton (1968)
" "	"	gonad	D	(1.3-2.3)	"
" "	"	liver	D	(0.7-1.5)	"
" "	"	integument	D	(1.0-1.6)	"

Kelp bass Paralabrax clathratus	California	heart	D	(0.9-1.3)	Stapleton (1968)
" "	"	eyeball	D	(2.2-3.4)	"
Sand bass Paralabrax humeralis	Peru	whole		(0.05-0.07) 0.06	Echegaray (1974)
Flounder Paralichthys adspersus	"	"		0.0	"
Southern flounder Paralichthys lethostigma	N.W. Atlantic		D	3.7	Windom (1972)
" "	Texas	muscle	W	0.9	Sims & Presley (1976)
Paralonchurus peruanus	Peru	whole		0.07	Echegaray (1974)
Black pomfret Parastromateus niger	Thailand	muscle	W	(<0.01-0.036)	Huschenbeth & Harms (1975)
White seaperch Phanerodon furcatus	California	"	D	trace	Emerson et al. (1976)
Flounder Platichthys flesus	Great Britain	whole	D	(14.1-28.2) 25.1±SD 0.87	Hardisty et al. (1974a)
" "	"	muscle	W	(0.10-0.72)	Wharfe & Van Den Broek (1977)
" "	"	liver	W	(0.53-1.45)	"
" "	"	gut wall	W	(0.35-1.12)	"
" "	"	ovary	W	0.12	"
Sand dab Pleuronectes limanda	Norway	muscle	D	14.0	Stenner & Nickless (1974)

TYPING GUIDE SHEET

Sand dab *Pleuronectes limanda*	Norway	gill	D	50.0	Stenner & Nickless (1974)
Plaice *Pleuronectes platessa*	W. Greenland	muscle	W	<0.2	Bollingberg (1975)
" "	Great Britain	"	W	(0.05-0.15)	Wharfe & Van Den Broek (1977)
" "	"	liver	W	(0.16-0.21) 0.18	"
" "	"	gut wall	W	(0.20-0.25)0.22	"
Pollack *Pollachius virens*	Massachusetts	muscle	W	(0.28-1.13) 0.63±SD 0.23	Zook et al. (1976)
Sand goby *Pomatoschistus minutus* (=Gobius minutus)	Great Britain	whole	D	17.6±SD 0.86	Hardisty et al. (1974b)
" "	"	"	W	(0.55-1.65) 1.00	Wharfe & Van Den Broek (1977)
Blue shark *Prionace glauca*	"	all organs	D	<0.2	Stevens & Brown (1974)
" "	"	ovary & epigonal organ	D	1.8	"
Wenchman *Pristipomoides aquilonaris*	Texas	muscle	D	0.5	Horowitz & Presley (1977)
" "	"	skin	D	6.1	"
" "	"	viscera	D	3.9	"
Winter flounder *Pseudopleuronectes americanus*	"	muscle	D	(0.04-1.6)0.9	"
" "	"	skin	D	(4.2-8.8)6.3	"

EPA-287 (Cin.)
(4-76)

Winter flounder *Pseudopleuronectes americanus*	Long Island	muscle	W	(<0.2-0.8)	Greig & Wenzloff (1977)
" "	"	liver	W	(<0.6-1.5)	"
Skate *Raja clavata*	Spain & Portugal	muscle	D	7.0	Stenner & Nickless (1975)
" "	"	gill	D	4.0	"
Greenland halibut *Reinhardtius hippoglossoides*	W. Greenland	muscle	W	(0.01-0.2)	Bollingberg (1975)
Pacific bonito *Sarda chiliensis*	Peru	whole		0.11	Echegaray (1974)
Sardine *Sardina caerulea*			W	0.4	(1938) in Vinogradov (1953)
" "			W	0.22	(1934)in"
Pilchard *Sardina pilchardus*	Great Britain	muscle	D	<0.2	Stevens & Brown (1974)
" "	Spain & Portugal	"	D	(ND-1.2)	Stenner & Nickless (1975)
" "	Adriatic Sea	skin	W	(3.3-6.8) 4.9	Gilmartin & Revelante (1975)
" "	"	gill	W	(1.9-4.5)2.9	"
" "	"	muscle	W	(ND-0.4)0.1	"
" "	"	digestive system	W	(ND-2.2)0.5	"
" "	"	liver	W	ND	"
" "	"	whole	W	(0.82-1.40)1.1	"

Gilt sardine _Sardinella aurita_	Israel	muscle	D	(0.3-0.7)	Roth & Hornung (1977)
Longer lizardfish _Saurida elongata_	Thailand	"	W	<0.01	Huschenbeth & Harms (1975)
Lizardfish _Saurida sp._	"	"	W	(<0.01-0.19)	"
Lizardfish _Saurida undosquamis_	Israel	"	D	(0.3-3.2)	Roth & Hornung (1977)
Drum, corvina _Sciaena gilberti_	Peru	whole		(0.02-0.89) 0.18	Echegaray (1974)
Atlantic mackerel _Scomber scombrus_	Great Britain	muscle	D	<0.2	Stevens & Brown (1974)
" "	Spain & Portugal	"	D	1.6	Stenner & Nickless (1975)
" "	"	gill	D	20.0	"
Spanish mackerel _Scomberomorus maculatus_	N.W. Atlantic	muscle	D	3.0	Windom (1976)
" "	"	liver	D	2.8	"
Windowpane _Scophthalmus aquosus_	New York Bight	muscle	W	<0.5	Greig et al. (1977b)
Flounder _Scophthalmus maximus_	Spain & Portugal	gill	D	17.0	Stenner & Nickless (1975)
Chain dogfish _Scyliorhinus canicula_	"	muscle	D	ND	"
" "	"	gill	D	ND	"

Ocean perch, redfish Sebastes marinus	Nova Scotia	muscle	W	(0.17-1.26) 0.55±SD 0.33	Zook et al. (1976)
Semele solida	Peru	whole		0.09	Echegaray (1974)
Amberjack Seriola sp.	Mid-Atlantic Bight	muscle	W	<1.00	Greig et al. (1976)
" "	"	liver	W	<2.4	"
Seriolela violacea	Peru	whole		0.08	Echegaray (1974)
Queenfish Seriphus politus	California	muscle	D	0.1	Emerson et al. (1976)
Blackear bass Serranus atrobranchius	Texas	"	D	0.3	Horowitz & Presley (1977)
" "	"	skin	D	7.0	"
Siganus rivulatus	Israel	muscle	D	0.3	Roth & Hornung (1977)
Sole Solea solea	"	"	D	0.3	"
" "	Spain & Portugal	"	D	(1.7-2.0)	Stenner & Nickless (1975)
" "	"	gill	D	(10.0-22.0)	"
Barracuda Sphyraena sphyraena	Israel	muscle		(1.8-5.2)	Roth & Hornung (1977)
Spondyliosoma cantharus	Spain & Portugal	"	D	ND	Stenner & Nickless (1975)
" "	"	gill	D	6.0	"

Spiny dogshark *Squalus acanthius*	Sweden		D	0.2	Noddack & Noddack (1940)
Herring *Sprattus sprattus* (=*Clupea sprattus*)			D	(0.3-0.6)	Vinogradov (1953)
" "			W	(0.1-0.2)	"
" "	Norway		D	(<0.3-21.8) 8.1	Andersen et al. (1973)
" "			D	(0.3-0.6)	Kringstad (1935)
" "	Great Britain	whole	W	(0.70-1.59) 1.03	Wharfe & Van Den Broek (1977)
" "	Norway	"	D	(<0.3-21.8)	Andersen et al. (1973)
Longspined porgy *Stenotomus chrysops*	Texas	muscle	D	(0.6-1.4) 0.9	Horowitz & Presley (1977)
" "	"	skin	D	(6.0-6.9)6.5	"
" "	"	viscera	D	5.5	"
Anchovy *Stolephorus sp.*	Thailand	muscle	W	0.14	Huschenbeth & Harms (1975)
Synaphobranchus kaupi	Mid-Atlantic Bight	whole	W	<1.00	Greig et al. (1976)
Lizardfish *Synodus similis*	Thailand	muscle	W	0.02	Huschenbeth & Harms (1975)
Striped marlin *Tetrapterus audax*	Japan	muscle	W	(0.12-0.23) 0.15±0.04	Nishigaki et al. (1974)

Albacore, germon *Thunnus alalanga*	Japan	muscle	W	(0.09-0.18) 0.13±0.04	Nishigaki et al. (1974)
Bigeye tuna *Thunnus obesus*	"	"	W	(0.07-0.31) 0.13±0.09	"
Russel's dart *Trachinotus russellii*	Thailand	"	W	0.01	Huschenbeth & Harms (1975)
Rough scad *Trachurus lathami*	Texas	"	D	(0.7-0.9) 0.8	Horowitz & Presley (1977)
" "	"	skin	D	(6.6-7.0)6.8	"
" "	"	viscera	D	2.6	"
Scad *Trachurus symmetrius merphyi*	Peru	whole		(0.0-0.21) 0.08	Echegaray (1974)
Horse mackerel *Trachurus trachurus*	Great Britain	muscle	D	<0.2	Stevens & Brown (1974)
Atlantic cutlassfish *Trichiurus lepturus*	Puerto Rico		D	(3.8-7.9) 5.8	Lowman et al. (1965)
" "	"		W	(0.83-1.8)1.3	"
Poor cod *Trisopterus minutus*	Great Britain	whole	D	20.0±SD 0.29	Hardisty et al. (1974a)
Goatfish *Upeneus moluccensis*	Israel	muscle	D	(0.3-5.3)	Roth & Hornung (1977)
Red hake *Urophycis chuss*	Long Island	"	W	(<0.3-0.6)	Greig & Wenzloff (1977)
" "	"	liver	W	(<0.3-1.7)	"

White hake *Urophycis tenuis*	Long Island	liver	W	1.1	Greig & Wenzloff (1977)
" "	"	muscle	W	(<0.3-0.8)	"
Swordfish *Xiphias gladius*	Atlantic	"	W	0.17	Schroeder & Balassa (1961)
" "	Peru			(0.14-0.57) 0.38	Echegaray (1974)
" "	Japan	"	W	(0.11-0.30) 0.19±0.06	Nishigaki et al. (1974)

LEAD IN FRESHWATER FISH(1)

Species	Locality	Tissue	Analysis PPM(2)	Authority
Short-nosed sturgeon *Acipenser brevirostrum*	New York		W 1.6	Pakkala et al. (1972)
Atlantic sturgeon *Acipenser oxyrhynchus*	"		W (1.2-1.9)	"
Sturgeon *Acipenser sp.*	"		W (0.5-3.0)	"
Alewife *Alosa pseudoharengus*	Wisconsin	muscle	W (0.0-0.12)	Kleinert et al. (1974)
Rock bass *Ambloplites rupestris*	New York		W (0.4-1.5)	Pakkala et al. (1972)
" "	United States	whole	W (<0.1-0.61)	Walsh et al. (1977)
Bowfin *Amia calva*	New York		W 0.7	Pakkala et al. (1972)
" "	United States	whole	W <0.1	Walsh et al. (1977)

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Freshwater drum Aplodinotus grunniens	New York		W	(0.5-1.1)	Pakkala et al. (1972)
" "	Wisconsin	muscle	W	0.05	Kleinert et al. (1974)
Stone roller Campostoma anomalum	Illinois		D	(1.6-6.8)	Illinois (1972)
Goldfish Carassius auratus	Hudson River New York		W	(1.2-3.0)	Pakkala et al. (1972)
" "	United States	whole	W	(0.52-2.60)	Walsh et al. (1977)
River carpsucker Carpiodes carpio	"	"	W	(0.17-1.1)	"
Quillback Carpiodes cyprinus	Illinois		D	2.1	Illinois (1972)
" "	"	muscle	W	(0.09-1.30) 0.64	Mathis & Cummings (1973)
" "	Wisconsin	"	W	0.05	Kleinert et al. (1974)
Longnose sucker Catostomus catostomus	Alaska	whole	W	(0.1-0.29)	Walsh et al. (1977)
Bridgelip sucker Catostomus columbianus	United States	"	W	(<0.1-0.90)	"
White sucker Catostomus commersoni	Illinois		W	(0.4-1.4)	Illinois (1972)
" "	Illinois		D	(2.0-2.3)	"
" "	"		D	(1.3-3.9)	"
" "	"		D	2.4	McNurney et al. (1977)

White sucker *Catostomus commersoni*	Wisconsin	muscle	W	(0.25-0.76)	Kleinert et al. (1974)
" "	United States	whole	W	(<0.1-6.40)	Walsh et al. (1977)
Largescale sucker *Catostomus macrocheilus*	"	"	W	(<0.1-0.9)	"
Klamath sucker *Catostomus snyderi*	"	"	W	(<0.1-0.12)	"
Sucker *Catostomus sp.*	Wisconsin	muscle	W	(0.0-2.87)	Kleinert et al. (1974)
Teymann's spotted catfish *Clarius betrachus*	Thailand	"	W	(<0.01-0.10)	Huschenbeth & Harms (1975)
Cisco *Coregonus artedii*	New York		W	(0.9-1.1)	Pakkala et al. (1972)
Lake whitefish *Coregonus clupeaformis*	"		W	(0.5-2.9)	"
" "	Lake Ontario	muscle & bone	W	<0.5	Uthe & Bligh (1971)
" "	Manitoba	"	W	<0.5	"
" "	United States	whole	W	(<0.1-0.20)	Walsh et al. (1977)
Bloater *Coregonus hoyi*	"	"	W	(<0.1-1.0)	"
Carp *Cyprinus carpio*	New York		W	1.0	Pakkala et al. (1972)
" "	Illinois		D	(2.5-2.6)	Illinois (1974)
" "	"		D	(1.0-5.3)	"
" "	"	muscle	W	(0.15-2.13) 0.56	Mathis & Cummings (1973)

Carp _Cyprinus carpio_	Wisconsin	muscle	W	(0.05-0.67)	Kleinert et al. (1974)
" "	United States	whole	W	(<0.1-2.1)	Walsh et al. (1977)
Gizzard shad _Dorosoma cepedianum_	New York		W	1.5	Pakkala et al. (1972)
" "	Illinois	muscle	W	(0.19-1.78) 0.84	Mathis & Cummings (1973)
" "	United States	whole	W	(<0.1-1.40)	Walsh et al. (1977)
Silverjaw minnow _Ericymba buccata_	Illinois	"	D	1.8	McNurney et al. (1977)
" "	"		D	(1.2-6.8)	Illinois (1972)
" "	Michigan		D	(0.315-0.668) 0.503	Mathis & Kevern (1975)
Chub sucker _Erimyzon oblongus_	Illinois		D	(1.6-5.9)	Illinois (1972)
Northern pike _Esox lucius_	New York		W	(0.4-1.0)	Pakkala et al. (1974)
" "	Lake Erie	muscle & bone	W	<0.5	Uthe & Bligh (1971)
" "	Manitoba	"	W	<0.5	"
" "				(4.0-4.1)	Westermark (1969)
" "	(1884-1930)	bone		4.5	"
" "	(since 1939)	"		4.0±0.9	"
" "	Illinois	muscle	W	(0.17-0.61) 0.34	Mathis & Cummings (1973)

Northern pike Esox lucius	Wisconsin	muscle	W	(0.0-4.31)	Kleinert et al. (1974)
Muskellunge Esox masquinongy	New York		W	(0.7-0.8)	Pakkala et al. (1972)
Chain pickerel Esox niger	"		W	(0.5-1.4)	"
" "	United States	whole	W	(<0.1-0.13)	Walsh et al. (1977)
Johnny darter Etheostoma nigrum	Illinois		D	(3.6-4.1)	Illinois (1974)
" "	"		D	4.1	McNurney et al. (1977)
Swamp eel Fluta alba	Thailand	muscle	W	<0.01	Huschenbeth & Harms (1975)
Mummichog Fundulus heteroclitus	Virginia spoil pond			4.5±SD 3.4	Drifmeyer & Odum (1975)
" "	" (control)			0.9±SD 1.1	"
	" (polluted area)			(1.59-3.73)	"
Mosquito fish Gambusia affinis	Oklahoma (from pond)		D	11.5±SD 2.02	Namminga et al. (1974)
Goldeye Hiodon alosoides	United States	whole	W	(<0.1-4.2)	Walsh et al. (1977)
Mooneye Hiodon tergisus	"	"	W	<0.1	"
White catfish Ictalurus catus	"	"	W	(0.40-0.54)	"
Blue catfish Ictalurus furcatus	"	"	W	(<0.1-0.44)	"

Black bullhead *Ictalurus melas*	Oklahoma (from pond)		D	34.0±SD 10.0	Namminga et al. (1974)
" "	United States	whole	W	(<0.1-0.16)	Walsh et al. (1977)
Yellow bullhead *Ictalurus natalis*	Michigan		D	(0.215-0.540) 0.304±0.126	Mathis & Kevern (1975)
Brown bullhead *Ictalurus nebulosus*	New York		W	(0.5-1.0)	Pakkala et al. (1972)
" "	United States	whole	W	(<0.1-1.30)	Walsh et al. (1977)
Channel catfish *Ictalurus punctatus*	New York		W	(0.5-2.6)	Pakkala et al. (1972)
" "	Mississippi & Arkansas	cultured, muscle	W	(0.39-1.35) 0.68±SD 0.41	Zook et al. (1976)
" "	Louisiana	wild, muscle	W	(0.29-1.50) 0.59±SD 0.52	"
" "	Wisconsin	"	W	(0.0-1.12)	Kleinert et al. (1972)
" "	United States	whole	W	(<0.1-1.40)	Walsh et al. (1977)
Catfish *Ictalurus sp.*	Missouri (at tailings pond)	"	D	5.0	Gale et al. (1976)
" "	"	gill	D	110.0	"
" "	"	muscle	D	<1.0	"
" "	"	gut	D	8.0	"
" "	"	liver & heart	D	<1.0	"
" "	"	bone	D	28.0	"

TYPING GUIDE SHEET

Catfish *Ictalurus sp.*	New York		W	(0.6-1.3)	Pakkala et al. (1972)
Smallmouth buffalo *Ictiobus bubulus*	United States	whole	W	(<0.1-0.80)	Walsh et al. (1977)
Bigmouth buffalo *Ictiobus cyprinellus*	Illinois	muscle	W	(0.35-0.95) 0.57	Mathis & Cummings (1973)
" "	United States	whole	W	(<0.1-0.22)	Walsh et al. (1977)
River lamprey *Lampetra fluviatilis*	Great Britain		D	6.0±SD 0.7	Hardisty et al. (1974b)
Brook lamprey *Lampetra planei*	"	adult	D	12.0±SD 1.13	"
" "	"	ammocoete	D	(8.6-8.8)	"
Spotted gar *Lepisosteus oculatus*	United States	whole	W	(0.1-0.22)	Walsh et al. (1977)
Longnose gar *Lepisosteus osseus*	"	"	W	(<0.1-0.85)	"
Shortnose gar *Lepisosteus platostomus*	Illinois	muscle	W	(0.63-0.85) 0.74	Mathis & Cummings (1973)
Redbreast sunfish *Lepomis auritus*	United States	whole	W	<0.1	Walsh et al. (1977)
Green sunfish *Lepomis cyanellus*	Illinois		D	(0.9-16.0)	Illinois (1972)
Pumpkinseed *Lepomis gibbosus*	United States	whole	W	(<0.1-0.90)	Walsh et al. (1977)
Orange spotted sunfish *Lepomis humilis*	Oklahoma (from pond)		D	ND	Namminga et al. (1974)

EPA-287 (Cin.)
(6-76)

Bluegill *Lepomis macrochirus*	Missouri (at mine tailings pond)	whole	D	128.0	Gale et al. (1976)
" "	" " 1 km downstream		D	23.0	"
" "	" " 65 " "		D	5.0	"
" "	" "100 " "		D	14.0	"
" "	"	skin & scale	D	97.0	"
" "	"	gill	D	185.0	"
" "	"	gut	D	814.0	"
" "	"	liver, heart, gonad	D	20.0	"
" "	"	muscle	D	<1.0	"
" "	"	bone	D	86.0	"
" "	Georgia		W	(0.10-0.21) 0.16	Mitre Corp. (1975)
" "	Wisconsin	muscle	W	(0.22-0.48)	Kleinert et al. (1974)
" "	United States	whole	W	(<0.1-0.7)	Walsh et al. (1977)
Long-ear sunfish *Lepomis megalotis*	"	"	W	0.1	"
Burbot *Lota lota*	New York		W	1.4	Pakkala et al. (1972)
Smallmouth bass *Micropterus dolomieui*	"		W	(0.3-1.9)	"
" "	Illinois	muscle	W	(0.68-1.28) 0.98	Mathis & Cummings (1973)
" "	Wisconsin	"	W	(0.0-0.27)	Kleinert et al. (1974)

Smallmouth bass Micropterus dolomieui	United States	whole	W	(<0.1-0.56)	Walsh et al. (1977)
Largemouth bass Micropterus salmoides	New York		W	(0.4-1.0)	Pakkala et al. (1972)
" "	Georgia		W	0.10	Mitre Corp. (1975)
" "	Michigan		D	(0.170-0.445) 0.301±0.062	Mathis & Kevern (1975)
" "	Illinois		W	(0.36-1.13) 0.59	Mathis & Cummings (1973)
" "	Wisconsin	muscle	W	(0.0-0.26)	Kleinert et al. (1974)
" "	United States	whole	W	(<0.1-1.60)	Walsh et al. (1977)
Bass Micropterus sp.	Missouri (at tailings pond)	whole	D	5.0	Gale et al. (1976)
" "	" "	skin & scale	D	26.0	"
" "	" "	gill	D	41.0	"
" "	" "	gut	D	19.0	"
" "	" "	muscle	D	2.0	"
" "	" "	bone	D	39.0	"
Spotted sucker Minytrema melanops	Georgia		W	0.16	Mitre Corp. (1975)
" "	United States	whole	W	(<0.1-0.20)	Walsh et al. (1977)
White perch Morone americanum	"	"	W	(<0.1-1.40)	"

White bass Morone chrysops (=Roccus chrysops)	Illinois	muscle	W	(0.18-0.98) 0.45	Mathis & Cummings (1973)
" "	United States	whole	W	0.24	Walsh et al. (1977)
" "	New York		W	(0.5-1.7)	Pakkala et al. (1972)
" "	Wisconsin	muscle	W	(0.32-0.39)	Kleinert et al. (1974)
Striped bass Morone saxatilis	New York		W	(0.6-1.0)	Pakkala et al. (1972)
Red horse Moxostoma macrolepidnotum	Illinois	muscle	W	(0.43-0.73) 0.62	Mathis & Cummings (1973)
" "	Wisconsin	"	W	(0.28-0.41)	Kleinert et al. (1974)
" "	United States	whole	W	(<0.1-1.5)	Walsh et al. (1977)
Striped mullet Mugil cephalus	"	"	W	(<0.1-0.32)	"
Golden shiner Notemigonus chrysoleucas	Illinois		D	(1.3-1.7)	Illinois (1972)
" "	United States	whole	W	(<0.1-1.10)	Walsh et al. (1977)
Striped shiner Notropis chrysocephalus	Illinois		D	(1.0-2.2)	Illinois (1972)
Shiner Notropis chrysoleucas	"		D	(2.6-3.1)	"
Spotfin shiner Notropis spilopterus	"		D	(0.8-6.8)	"
Sand shiner Notropis stramineus	"		D	(1.4-6.9)	"

TYPING GUIDE SHEET

Redfin shiner _Notropis umbratilus_	Illinois		D	(1.1-3.5)	Illinois (1972)
Coho salmon _Oncorhynchus kisutch_	New York		W	(0.3-2.2)	Pakkala et al. (1972)
Striped snakehead _Ophiocephalus striatus_	Thailand	muscle	W	<0.01	Huschenbeth & Harms (1975)
Sacramento blackfish _Orthodon microlepidonotus_	California	whole	W	<0.1	Walsh et al. (1977)
Rainbow smelt _Osmerus mordax_	Lake Erie	muscle & bone	W	<0.5	Uthe & Bligh (1971)
River catfish _Pangasius pangasius_	Thailand	muscle	W	<0.01	Huschenbeth & Harms (1975)
Yellow perch _Perca flavescens_	New York		W	(0.5-1.1)	Pakkala et al. (1972)
" "	Michigan		D	(0.105-0.597) 0.378± 0.093	Mathis & Kevern (1975)
" "	Lake Erie	muscle & bone	W	<0.5	Uthe & Bligh (1971)
" "	Wisconsin	muscle	W	(0.0-0.66)	Kleinert et al. (1974)
" "	United States	whole	W	(<0.1-0.60)	Walsh et al. (1977)
Blunt-nose minnow _Pimephales notatus_	Illinois		D	(1.0-6.4)	Illinois (1972)
" "	"		D	2.7	McNurney (1977)

EPA-287 (Cin)
(4-76)

White crappie *Pomoxis annularis*	United States	whole	W	(<0.1-0.28)	Walsh et al. (1977)
Black crappie *Pomoxis nigromaculatus*	New York		W	(0.3-1.0)	Pakkala et al. (1972)
" "	Wisconsin	muscle	W	0.06	Kleinert et al. (1974)
" "	United States	whole	W	<0.1	Walsh et al. (1977)
Round whitefish *Prosopium cylindroceum*	Alaska	"	W	(<0.1-1.2)	"
Northern squawfish *Ptylocheilus oregonensis*	United States	"	W	(0.1-0.30)	"
Flathead catfish *Pylodictis olivaris*	"	"	W	<0.05	"
Rainbow trout *Salmo gairdneri*	New York		W	(0.4-1.2)	Pakkala et al. (1972)
" "	Wisconsin	muscle	W	0.25	Kleinert et al. (1974)
Brown trout *Salmo trutta*	New York	"	W	(0.4-1.3)	Pakkala et al. (1972)
" "	Wisconsin	"	W	(0.21-0.25)	Kleinert et al. (1974)
" "	United States	whole	W	(0.14-0.20)	Walsh et al. (1977)
Brook trout *Salvelinus fontinalis*	New York		W	(0.7-1.2)	Pakkala et al. (1972)
Lake trout *Salvelinus namaycush*	"		W	(0.4-1.5)	"
" "	"	without head, viscera & fins	W	(0.0044-0.022)	Tong et al. (1974)

Lake trout Salvelinus namaycush	United States	whole	W	(<0.1-0.20)	Walsh et al. (1977)
" "	Wisconsin	muscle	W	(0.11-0.54)	Kleinert et al. (1974)
Horned dace Semotilus atromaculatus	Illinois		D	(1.5-2.0)	Illinois (1974)
" "	"		D	(1.1-2.6)	Illinois (1972)
" "	"	whole	D	1.4	McNurney et al. (1977)
Sauger Stizostedion canadense	United States	"	W	(<0.10-0.3)	Walsh et al. (1974)
Walleye Stizostedion vitreum	New York		W	(0.3-2.6)	Pakkala et al. (1972)
" "	Wisconsin	muscle	W	(0.0-0.59)	Kleinert et al. (1974)
" "	United States	whole	W	(0.1-0.21)	Walsh et al. (1977)
Arctic grayling Thymallus arcticus	Alaska	"	W	(0.2-0.23)	"

LEAD IN MOLLUSCS(1)

Species	Locality	Tissue	Analysis(2) PPM	Authority
Acaultocardia aculeata	Spain & Portugal		D 14.0	Stenner & Nickless (1975)
Limpet *Acmaea digitalis*	California (polluted area)	soft parts	D 931.0±SD 26.0	Graham (1972)
" "	" (non-polluted)	"	D 7.5±SD 0.5	"
" "	" (polluted area)	shell	D 108.0±SD 10.0	"
" "	" (non-polluted)	"	D 9.0	"
Aeolidia papillosa			A 300.0?	Vinogradov (1953)
Calico scallop *Aequipecten gibbus*	Florida	muscle	W (0.18-1.05) 0.45±SD 0.28	Zook et al. (1976)
Alasmidonta calceolus	Tennessee	shell	D (0.1-4.0)1.1	Clark et al. (1976)
Clam *Amblema plicata*	Illinois	soft parts	W (1.1-7.6)2.7	Mathis & Cummings (1973)

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Arch shell *Anadara granosa*	Thailand	soft parts	W	0.18	Huschenbeth & Harms (1975)
Paper shell mussel *Anodonta grandis*	Tennessee	shell	D	(0.0-0.8)	Clark et al. (1976)
Paper shell mussel *Anodonta imbecillus*	"	"	D	(0.0-1.2)0.3	"
Paper shell mussel *Anodonta sp.*	Illinois	soft parts	D	13.73	Anderson (1977)
" "	"	shell	D	9.30±0.14	"
Saddle oyster *Anomia walteri*	New Zealand	soft parts	W	0.4	Nielsen & Nathan
Atlantic bay scallop *Argopecten irradians* (=Aequipecten irradiens)	Massachusetts	muscle	W	(0.0-0.48) 0.24±SD 0.17	Zook et al. (1976)
Ridged mussel *Aulacomya ater*	Peru	soft parts		(0.03-0.5)	Echegaray (1974)
Ridged mussel *Aulocomya maoriana*	New Zealand	"	W	(0.2-0.8) 0.52	Nielsen & Nathan (1975)
Whelk *Buccinum sp.*			D	97.0	Vinogradov (1953)
" "			A	1.3	"
Northern buccinum, whelk *Buccinum undatum*	Scotland (sewage dump area)	soft parts	D	41.0	Mackay et al. (1972)
" "	Irish Sea	"	D	5.4	Segar et al. (1971)
Snail *Bulinus contortus*	France (control)		D	0.16	Deschiens et al. (1957)
Channeled whelk *Busycon canaliculatum*	Long Island	muscle	W	(<0.7-0.7)	Greig et al. (1977b)

Channeled whelk *Busycon canaliculatum*	Long Island	digestive gland	W	(1.1-1.3)	Greig et al. (1977b)
" "	Chincoteague	muscle	W	0.9	"
" "	"	digestive gland	W	1.7	"
Beaded top shell *Calliostoma zizyphinum*	Spain & Portugal		D	27.0	Stenner & Nickless (1975)
Snail *Campeloma sp.*	Illinois	whole	D	21.79	Anderson (1977)
Edible cockle *Cerastoderma edule (=Cardium edule)*	Norway	soft parts	D	(12.0-110.0)	Stenner & Nickless (1974)
" "	Spain & Portugal	"	D	(0.7-2.0)	" (1975)
Cockle *Chione sp.*	S. California	"	D	(0.18-0.60)	Chow et al. (1976)
" "	"	shell	D	0.12	"
New Zealand cockle *Chione stutchburyi*	New Zealand	soft parts	W	1.8	Nielson & Nathan (1975)
Scallop *Chlamys operculis*	Great Britain	"	W	1.7	Bryan (1971)
" "	"	renal organ	W	148.0	"
" "	"	soft parts	D	12.0	" (1973)
Scallop *Chlamys septemradiata*	Scotland (sewage dump area)	"	D	50.0	Mackay et al. (1972)

South African black mussel *Choromytilis meridionalis*	South Africa	female	D	1.8	Watling & Watling (1976b)
" "	"	male	D	2.1	"
Pteropod *Clione limacina*	N.W. Atlantic	whole	A	65.0	Nicholls et al. (1959)
Limpet *Collisella sp.*	S. California	soft parts	D	(0.33-0.44)	Chow et al. (1976)
" "	"	shell	D	(0.046-0.069)	"
Asiatic clam *Corbicula manillensis*	Tennessee	"	D	(0.0-190.0)	Clark et al. (1976)
Portuguese oyster *Crassostrea angulata*			D	78.0	Vinogradov (1953)
" "	Spain & Portugal	soft parts	D	(4.0-11.0)	Stenner & Nickless (1975)
Sydney rock oyster *Crassostrea commercialis*	New South Wales		W	(0.3-1.3)0.8	Mackay et al. (1975a)
Giant Pacific oyster *Crassostrea gigas*	Japan	fresh tissue	W	(0.1-0.4)	Hayashi (1960)
" "	" (highest in September)	"	W	5.9	"
" "	Pacific coast United States	soft parts	W	(0.10-4.50)	Pringle et al. (1968)
" "	South Africa	"	D	1.0	Watling & Watling (1976b)
" "	S. California	"	D	(0.27-0.45)	Chow et al. (1976)
" "	"	muscle	D	(0.28-0.52)	"

Giant Pacific oyster Crassostrea gigas	S. California	viscera	D	(0.25-0.37)	Chow et al. (1976)
" "	"	shell	D	0.15	"
" "	Great Britain	soft parts	D	(15.0-17.0)	Boyden & Romeril (1974)
" "	"	"	D	6.0	Boyden (1975)
New Zealand rock oyster Crassostrea glomerata	New Zealand	soft parts	W	(0.2-21.0) 0.90	Nielsen & Nathan (1975)
American oyster Crassostrea virginica		canned	W	0.13	Schroeder & Balassa (1961)
" "		fresh	W	<0.12	Schuster & Pringle (1968)
" "		"	W	(0.12-2.29)	"
" "	Canada	canned		0.83±0.96	Dick & Pugsley (1950)
" "	Rhode Island	soft parts	W	2.48	Schuster & Pringle (1969)
" "	New England (control)		D	<1.0	Valiela et al. (1974)
" "	" (sewage added)		D	<1.0	"
" "	Texas	soft parts		(0.1-1.5)	Mitre Corp. (1975)
" "	Maryland & Virginia	"	W	(0.0-0.84) 0.45±SD 0.28	Zook et al. (1976)
" "	Long Island	"	W	(0.31-1.28) 0.74±SD 0.30	"
" "	Connecticut	" adult	D	(<4.2-7.1)	Greig et al. (1975)

American oyster *Crassostrea virginica*	Connecticut	eggs	D	(<9.9-10.0)	Greig et al. (1975)
" "	Alabama	soft parts	W	(<0.10-1.79) 0.82	Kopfler & Mayer (1973)
" "	Atlantic Coast United States	"	W	(0.10-2.30)0.47	Pringle et al. (1968)
Conchita *Donax sp.*	Peru	"		0.34	Echegaray (1974)
Donax *Donax vittatus*	Spain & Portugal		D	(ND-2.0)	Stenner & Nickless (1975)
Jack knife clam *Ensis arcuratus*	"		D	2.0	"
Clam *Fusconaia flava*	Illinois	soft parts	W	(1.8-5.1) 3.7	Mathis & Cummings (1973)
Top shell *Gibbula cineraria*	Spain & Portugal	"	D	25.0	Stenner & Nickless (1975)
Top shell *Gibbula lineata*	"	"	D	8.0	"
Top shell *Gibbula umbilicalis*	"	"	D	(14.0-20.0)	"
Bittersweet *Glycymeris glycymeris*	Great Britain	"	D	3.5	Segar et al. (1971)
River snail *Goniobasis sp.*	Illinois	whole	D	19.73±0.48	Anderson (1977)
Snail *Gyraulus sp.*	Oklahoma	soft parts	D	1.3±SD 0.2	Pesch et al. (1977)
" "	"	shell	D	17.0±SD 0.9	"

Pink abalone Haliotis corrugata	S. California	muscle	D	(0.038-0.054)	Chow et al. (1976)
Black abalone Haliotis cracherodi	"	"	D	(0.017-0.057)	"
" "	"	shell	D	0.043	"
Green abalone Haliotis fulgens	"	muscle	D	(0.067-0.11)	"
" "	"	shell	D	0.27	"
Abalone Haliotis iris	New Zealand	soft parts	W	(0.40-0.65) 0.50	Nielsen & Nathan (1975)
Red abalone Haliotis rufescens	California	gill	D	<0.1	Anderlini (1974)
" "	"	mantle	D	<0.1	"
" "	"	digestive gland	D	(9.0-40.8)	"
" "	"	foot	D	<0.1	"
" "	S. "	muscle	D	(0.014-0.024)	Chow et al. (1976)
" "	" "	"	W	(0.004-0.007	"
Pulmonate mollusc Helix aspersa	Great Britain	albumin	D	(5.36-46.8)	Coughtrey & Martin (1976)
" "	"	gonad	D	(4.91-49.37)	"
" "	"	collar	D	(4.50-17.14)	"
" "	"	skin	D	(1.33-33.64)	"
" "	"	foot muscle	D	(4.63-29.16)	"
" "	"	kidney	D	(27.68-51.53)	"
" "	"	crop	D	(41.16-52.73)	"
" "	"	digestive gland	D	(45.05-83.49)	"

Giant rock scallop *Hinnites multirugosus*	S. California	muscle	D	(0.18-0.49)	Chow et al. (1976)
" "	"	"	W	(0.042-0.11)	"
" "	"	shell	D	(0.32-0.65)	"
" "	"	"	W	0.60	"
Northern chiton *Ischnochiton sp.*	"	soft parts	D	(0.30-1.02)	"
" "	"	"	W	(0.064-0.29)	"
" "	"	shell	D	(0.078-0.20)	"
" "	"	"	W	(0.049-0.14)	"
Lampsilis sp.	Illinois	soft parts	D	21.93±0.14	Anderson (1977)
Lasmigona costata	Tennessee	shell	D	(0.0-1.8)0.8	Clark et al. (1976)
Lasmigona sp.	Illinois	soft parts	D	23.70	Anderson (1977)
Pteropod *Limacina retroversa*	N.W. Atlantic	whole	A	200.0	Nicholls et al. (1959)
Sea snail *Liparis liparis*	Severn Estuary Great Britain		D	(25.8-29.9)	Hardisty et al. (1974b)
Periwinkle *Littorina littoralis*	Norway	soft parts	D	(ND-39.0)	Stenner & Nickless (1974)
Common periwinkle *Littorina littorea*	Great Britain		A	300.0?	Webb (1937)
" "	"		W	(0.05-3.30)	Wharfe & Van Den Broek (1977)
" "	"	soft parts	D	(ND-19.0)	Nickless et al. (1972)
" "	"		D	(0.1-3.0)	Butterworth et al. (1972)

Northern rough periwinkle *Littorina saxatilis*	Norway	soft parts	D	16.0	Stenner & Nickless (1974)
Periwinkle *Littorina sp.*			D	12.6	Vinogradov (1953)
Giant owl limpet *Lottia gigantea*	S. California	soft parts	D	(0.49-1.06)	Chow et al. (1976)
" "	"	shell	D	0.16	"
Bent-nose macoma *Macoma nasuta*	California		D	(1.3-2.0)	Emerson et al. (1976)
Northern quahog *Mercenaria mercenaria*	New England (control)		D	2.8±0.6	Valiela et al. (1974)
" "	" (sewage fertilizer)		D	(2.7-3.5)	"
" "	Chincoteague Bay	soft parts	W	(0.00-0.63) 0.28±SD 0.18	Zook et al. (1976)
" "	Atlantic Coast United States	"	W	(0.10-7.50) 0.52	Pringle et al. (1968)
" "	Great Britain	"	D	18.0	Segar et al. (1971)
Machas *Mesodesma donacium*	Peru	"		(0.17-0.35) 0.26	Echegaray (1974)
Atlantic ribbed mussel *Modiolus demissus* (=Arcuatela demissus)	New England (control)		D	2.7±SD 0.3	Valiela et al. (1974)
" "	" (sewage fertilizer)		D	(2.6-3.2)	"
Northern horse mussel *Modiolus modiolus* (=Arcuatela modiolus)	Norway		D	32.4	Andersen & Neelakantan (1974)

Northern horse mussel Modiolus modiolus (= Arcuatela modiolus)	Great Britain		A	150.0	Webb (1937)
" "	"	soft parts	D	42.0	Segar et al. (1971)
Soft shell clam Mya arenaria	Chesapeake Bay	"	W	(0.00-0.87) 0.40±SD 0.29	Zook et al. (1976)
" "	Atlantic Coast United States	"	W	(0.10-10.20) 0.70	Pringle et al. (1968)
Californian mussel Mytilus californianus	California	"	D	(<2.2-23.4)	Graham (1972)
" "	"	shell	D	(<9.0-19.4)	"
" "	S. "	digestive gland	D	(2.0-38.0)	Alexander & Young (1976)
Blue mussel Mytilus edulis	Germany	soft parts	D	(3.1-3.5)	Schulze-Baldes (1974)
" "	"	"	D	(1.9-6.4)	"
" "			D	15.0	Vinogradov (1953)
" "	New Zealand	"	D	(<3.0-25.0) 12.0	Brooks & Rumsby (1965)
" "	"	mantle	D	<5.0	"
" "	"	gill	D	36.0	"
" "	"	muscle	D	<5.0	"
" "	"	viscera	D	26.0	"
" "	"	intestine	D	69.0	"
" "	"	foot	D	<5.0	"
" "	"	gonad	D	7.0	"

Blue mussel *Mytilus edulis*	Norway	soft parts	D	(2.0-3,100.0)	Stenner & Nickless (1974)
" "	Great Britain	"	D	9.1	Segar et al. (1971)
" "	Australia	"	D	(7.0-19.0)	Boyden (1975)
" "	"	"	W	(0.71-10.0)	Phillips (1976)
" "	Great Britain	"	W	(0.45-3.00)	Wharfe & Van Den Broek (1977)
" "	Port Phillip, Australia	foot	D	(3.7-8.4)	Talbot et al. (1976)
" "	"	gill	D	(11.2-32.6)	"
" "	"	stomach	D	(8.9-23.6)	"
" "	"	mantle	D	(4.1-14.5)	"
" "	"	muscle	D	(4.2-17.8)	"
" "	"	shell	D	(8.7-81.0)	"
" "	Spain & Portugal	soft parts	D	(2.0-15.0)	Stenner & Nickless (1975)
" "	W. Greenland	"	W	(2.2-21.0)	Bollingberg (1975)
" "	Great Britain	"	D	(ND-30.0)	Nickless et al. (1972)
" "	"	"	W	172.0	Wright (1976)
" "	California	"	D	(<2.2-7.9)	"
" "	"	shell	D	(<9.0-21.2)	Graham (1972)
" "	New Zealand	soft parts	W	(0.1-2.0) 0.67	Nielsen & Nathan (1975)

Mussel *Mytilus galloprovincialis*	N. W. Mediterranean		D	(2.7-117.0) 21.5	Fowler & Oregioni (1976)
Mytilus sp.	Naples, Italy			56.7±SE 8.1	Sheppard & Bellamy (1974)
" "	Great Britain			(2.0-9.5)	"
Mussel *Mytilus viridis*	Thailand		W	0.110	Huschenbeth & Harms (1975)
Giant western nassa *Nassarius fossatus*	California		D	0.9	Emerson et al. (1976)
Dog whelk *Nucella lapillus*	Spain & Portugal		D	9.0	Stenner & Nickless (1975)
" "	Great Britain	soft parts	D	(1.0-38.0)	Nickless et al. (1972)
" "	"		D	(5.0-27.0)	Butterworth et al. (1972)
" "	Irish Sea		D	4.9	Segar et al. (1971)
" "	Norway	"	D	(8.0-27.0)	Stenner & Nickless (1974)
Nutclam *Nucula sulcata*	Scotland (sewage dump area)	"	D	50.0	Mackay et al. (1972)
Octopus *Octopus sp.*	Spain & Portugal		D	ND	Stenner & Nickless (1975)
Common Atlantic octopus *Octopus vulgaris*	N.W. Atlantic		D	0.5	Windom (1972)
Dwarf olive *Olivella biplicata*	California	soft parts	D	(6.0-11.0)	Schwimer (1973)

Squid *Ommastrephes illecebrosa*	N. W. Atlantic		A	5.0	Nicholls et al. (1959)
Oyster *Ostrea edulis*			D	(16.0-198.0)	Elderfield et al. (1971)
" "			D	144.0	Vinogradov (1953)
" "			A	0.2	"
" "	Great Britain	soft parts	D	(5.0-8.0)	Boyden (1975)
Dredge oyster *Ostrea lutaria*	New Zealand	"	W	(0.1-2.2) 0.69	Nielsen & Nathan (1975)
Oyster *Ostrea sinuata*	"	"	D	(6.0-14.0) 10.0	Brooks & Rumsby (1965)
" "	"	mantle	D	<5.0	"
" "	"	gill	D	<5.0	"
" "	"	muscle	D	<5.0	"
" "	"	kidney	D	<5.0	"
" "	"	heart	D	15.0	"
" "	"	soft parts	D	1.0	" (1967)
" "	"	muscle	D	(0.6-1.9)	"
" "	"	gill	D	1.9	"
" "	"	viscera	D	13.1	"
" "	"	mantle	D	3.4	"
" "	"	heart	D	63.0	"
Pipi *Paphies australis*	New Zealand	soft parts	W	0.4	Nielsen & Nathan (1975)
Tuatua *Paphies subtriangulata*	"	"	W	(0.4-0.9)0.65	"

Toheroa *Paphies ventricosa*	New Zealand	soft parts	W	(0.5-1.0) 0.76	Nielsen & Nathan (1975)
European limpet *Patella vulgata*	Norway	"	D	(9.0-12.0)	Stenner & Nickless (1974)
" "	Great Britain	"	W	(0.17-0.75)	Peden et al. (1973)
" "	"	"	D	(2.0-27.0)	Nickless et al. (1972)
" "	"		D	(3.0-9.5)	Butterworth et al. (1972)
" "	"	"	D	(3.5-85.0) 7.8	Preston et al. (1972)
" "	Irish Sea		D	32.0	Segar et al. (1971)
" "	"		W	5.7	"
Limpet *Patella sp.*	Spain & Portugal		D	(2.0-16.0)	Stenner & Nickless (1975)
Scallop *Pecten maximus*	Great Britain		A	200.0	Webb (1937)
" "	Scotland	soft parts	W	(0.30-1.03)	Topping (1973b)
" "	Irish Sea	"	D	8.3	Segar et al. (1971)
" "	Great Britain	"	D	2.0	Bryan (1973)
Scallop *Pecten novae-zelandiae*	New Zealand		D	(10.0-23.0)16.0	Brooks & Rumsby (1965)
" "	"	mantle	D	<5.0	"
" "	"	gill	D	52.0	"

Scallop *Pecten novae-zelandiae*	New Zealand	muscle	D	<5.0	Brooks & Rumsby (1965)
" "	"	viscera	D	8.0	"
" "	"	intestine	D	28.0	"
" "	"	kidney	D	137.0	"
" "	"	foot	D	14.0	"
" "	"	gonad	D	78.0	"
" "	"	soft parts	W	(0.4-3.5) 1.14	Nielsen & Nathan (1975)
" "	"	stomach	W	(0.4-4.0)1.2	"
" "	"	gonad	W	(0.1-0.4)0.25	"
" "	"	adductor muscle	W	(0.2-0.7)0.45	"
Scallop *Pecten sp.*		muscle	W	0.15	Schroeder & Balassa (1961)
Green-lipped mussel *Perna canalicularis*	New Zealand	soft parts	W	(0.1-7.8)1.8	Nielsen & Nathan (1975)
Pond snail *Physa sp.*	Illinois		D	(12.0-42.0)	Illinois (1974)
" "	Oklahoma	soft parts	D	8.7±SD 4.3	Namminga et al. (1974)
" "	"	shell	D	46.2±SD 2.3	"
" "	Illinois	whole	D	21.64±0.31	Anderson (1977)
Atlantic deepsea scallop *Placopecten magellanicus*	N.E. Atlantic (dump sites)	soft parts	D	(1.22-7.09) 3.59	Pesch et al. (1977)

Atlantic deepsea scallop *Placopecten magellanicus*	N.E. Atlantic	soft parts	W	(0.23-0.75) 0.47±0.21	Zook et al. (1976)
Ramshorn snail *Planorbis glabratus*	France (control)		D	0.16	Deschiens et al. (1957)
Pleurocera sp.	Illinois	whole	D	24.08±0.03	Anderson (1977)
Moon shell *Polineces lewisii*	California	soft parts	D	(5.0-8.0)	Schwimer (1973)
Common Pacific littleneck *Protothaca staminea*	"	"	D	5.2±SD 0.1	Graham (1972)
" "	"	shell	D	<9.0	"
" "	S. "	"	D	(0.22-1.78)	Chow et al. (1976)
" "	"	soft parts	D	(2.90-14.5)	"
Clam *Quadrula quadrula*	Illinois	"	W	(0.9-3.8) 2.2	Mathis & Cummings (1973)
Jacknife clam *Solen marginatus*	Spain & Portugal		D	40.0	Stenner & Nickless (1975)
Sphaerium sp.	Illinois	soft parts	D	32.18±0.28	Anderson (1977)
Surf clam *Spisula solida*	Spain & Portugal		D	2.0	Stenner & Nickless (1975)
Atlantic surf clam *Spisula solidissima*	W. Atlantic	hearts & tongues	W	(0.16-0.80) 0.52±SD 0.25	Zook et al. (1976)
" "	Delaware & Chincoteague	soft parts	W	<0.5	Greig et al. (1977b)

Surf clam *Spisula subtruncata*	Spain & Portugal		D	(6.0-20.0)	Stenner & Nickless (1975)
Conch, spider snail *Strombus pugilis*	Puerto Rico	shell	D	(79.0-98.0) 88.0	Lowman et al. (1965)
" "	"	muscle	D	(7.3-8.6)8.0	"
" "	"	soft parts	D	24.0	"
" "	"	internal organs	D	23.0	"
" "	"	soft parts	D	(13.0-24.0) 18.5	" (1966)
Clam *Strophitus sp.*	Illinois	"	D	27.25	Anderson (1977)
Littleneck *Tapes semidecussata*	California	"	D	<2.2	Graham (1972)
" "	"	shell	D	<9.0	"
Black tegula *Tegula funebralis*	"	soft parts	D	(<2.2-9.8)	"
" "	"	shell	D	(<9.0-9.8)	"
" "	S."	soft parts	D	(0.30-1.30)	Chow et al. (1976)
" "	"	shell	D	0.27	"
Dogwinkle *Thais chocolata*	Peru	soft parts		(0.0-0.20) 0.07	Echegaray (1974)
Emarginate dogwinkle *Thais emarginata*	California	"	D	<2.2	Graham (1972)
" "	"	shell	D	<9.0	"

Thracia clam *Thracia distorta*	Spain & Portugal		D	ND	Stenner & Nickless (1975)
Pismo clam *Tivela stultorum*	S. California	muscle	D	(0.046-0.103)	Chow et al. (1976)
" "	"	stomach	D	(0.072-0.15)	"
" "	"	foot	D	(0.045-0.30)	"
" "	"	shell	D	0.088	"
Venerupis decussata	Spain & Portugal		D	5.0	Stenner & Nickless (1975)
Venerupis rhomboides	"		D	(ND-30.0)	"
Venus striatula	"		D	(ND-17.0)	"

LEAD IN ARTHROPODS(1)

Species	Locality	Tissue	Analysis PPM(2)	Authority
CRUSTACEA				
Amphipod *Amphipoda sp.*	Norway	soft parts	D (18.0-23.0)	Stenner & Nickless (1974)
Sow bug *Asellus sp.*	Illinois	whole	D 22.05±SD 0.38	Anderson (1977)
Barnacle *Balanus balanoides*	Wales		D (200.0-1,200.0)?	Ireland (1974)
" "	"	body	D 140.4?	"
" "	"	egg mass	D 75.0?	"
Copepod *Calanus finmarchicus*	N.W. Atlantic	whole	A 575.0	Nicholls et al. (1959)
Ghost shrimp *Callianassa californiensis*	California		D (0.1-0.7)	Emerson et al. (1976)
Blue crab *Callinectes sapidus*			0.3	Vinogradov (1953)

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Blue crab *Callinectes sapidus*	Texas			(0.05-2.28)	Mitre Corp. (1975)
" "	Florida	whole	W	0.5	Ogden et al. (1974)
" "	Texas	"	D	<0.2	Sims & Presley (1976)
" "	Maryland & Virginia	muscle	W	(0.38-1.50) 0.79±SD 0.33	Zook et al. (1976)
" "	N.W. Atlantic		D	(0.5-21.0)3.5	Windom (1972)
Crawfish *Cambarus sp.*	Missouri (tailings pond)	whole	D	500.0	Gale et al. (1976)
" "	" 1 km downstream	"	D	400.0	"
" "	"25 " "	"	D	2.0	"
" "	"65 " "	"	D	6.0	"
" "	Illinois	"	D	15.62±SD 0.01	Anderson (1977)
Crab *Cancer antennarius*	California	muscle	D	(0.39-0.56)	Chow et al. (1976)
" "	"	shell	D	(1.04-1.22)	"
Crab *Cancer anthonyi*	California	muscle	W	(0.1-1.1)0.5	Fowler et al. (1975)
Rock crab *Cancer irroratus*	New York Bight	whole larva	D	(10.0-68.1)	Greig et al. (1977a)
" "	"	muscle	W	(<1.1-1.3)	" (1977b)
" "	"	digestive gland	W	(<0.6-1.3)	"
" "	"	gill	W	3.1±SE 0.70	"
" "	Long Island Sound	muscle	W	3.4±SE 3.2	"
" "	Delaware & Virginia	"	W	(<0.5-0.9)	"

Rock crab *Cancer irroratus*	Delaware & Virginia	digestive gland	W	(0.8-1.0)	Greig et al. (1977b)
" "	"	gill	W	(0.9-1.5)	"
Crab *Cancer pagurus*		muscle		0.2	Vinogradov (1953)
" "		carapace		0.5	"
Shore crab *Carcinus maenas*	Norway	soft parts	D	(8.0-31.0)	Stenner & Nickless (1974)
" "	Great Britain		W	(0.10-4.13)	Wharfe & Van Den Broek (1977)
Copepod *Centropagus hamatus*	New England		A	1,300.0	Nicholls et al. (1959)
Copepod *Centropagus typicus*	"		A	1,300.0	"
Shrimp *Crangon allmani*	Scotland (control area)	soft parts	D	17.0	Mackay et al. (1972)
" "	" (sewage dump area)	"	D	32.0	"
Sand shrimp *Crangon crangon* (=Crangon vulgaris)	Great Britain		W	1.22	Van Den Broek (1977)
" "	"		D	(34.0-55.6)	Hardisty et al. (1974b)
Decapoda	Illinois		D	(2.2-11.0)	Illinois (1974)
Shrimp *Euphausia krohnii*	New England		A	20.0	Nicholls et al. (1959)
Eusmilia fastigiata	Puerto Rico		D	(91.0-110.0) 100.0	Lowman et al. (1965)
" "	"		W	(91.0-100.0) 96.0	"

Scud *Gammarus sp.*	Illinois	whole	D	<4.0	Anderson (1977)
Red crab *Geryon quinquedens*	Middle Atlantic Bight	muscle	W	<1.0	Greig et al. (1976)
" "	"	gill	W	<1.0	"
Crab *Hemigrapsus nudus*	California	tissue	D	(0.20-1.06)	Chow et al. (1976)
" "	"	shell	D	(0.37-0.84)	"
Lobster *Homarus americanus*			D	(6.2-25.6)	Vinogradov (1953)
" "	Maine	claw muscle	W	2.50	Schroeder & Balassa (1961)
" "		carapace	A	3.0	Vinogradov (1953)
" "	N.W. Atlantic		D	(1.0-5.6) 2.2	Windom (1972)
Lobster *Homarus gammarus* (=Homarus vulgaris)		muscle		0.2	Vinogradov (1953)
" "		carapace		0.3	"
" "	Great Britain		D	(6.2-25.6)	Chapman (1926)
" "	"	claw muscle	W	(<0.2-0.4)	Topping (1973b)
" "	"	tail	W	(<0.2-0.2)	"
" "	"	gonad	W	<0.2	"
" "	"	gill	W	(<0.2-0.4)	"
" "	"	liver	W	(<0.2-0.2)	"
Decapod *Leander adspersus*				trace	Petkevich & Stepanyuk (1970)

Freshwater prawn *Macrobrachium rosenbergii*	Thailand	whole	W	0.11	Huschenbeth & Harms (1975)
" "	"	muscle	W	0.22	"
Decapod *Maia squinada*	Spain & Portugal	brown muscle	D	ND	Stenner & Nickless (1975)
" "	"	shell & white muscle	D	1.2	"
" "	"	leg muscle	D	5.1	"
Manicina areolata	Puerto Rico		D	(83.0-110.0) 94.0	Lowman et al. (1966)
" "	"		W	(81.0-100.0)93.0	"
Stone crab *Menippe mercenaria*	Florida		W	(0.5-1.7)	Ogden et al. (1974)
Crab *Mursia gaudichaudi*	California	muscle	W	(1.6-13.3) 5.20±SD 1.64	Fowler et al. (1975)
" "	"	digestive gland	W	(1.2-12.6) 4.28±SD 2.15	"
" "	"	gonad	W	(0.86-66.8) 18.57±SD 16.08	"
Decapod *Nethrops norvegicus*	Spain & Portugal	head	D	(ND-5.6)	Stenner & Nickless (1975)
" "	"	muscle	D	3.5	"
" "	"	tail muscle	D	ND	"
Beach hopper *Orchestoidea californiana*	California	whole	D	(ND-10.0)	Bender (1975)
Beach hopper *Orchestoidea corniculata*	"	"	D	(ND-10.0)	"

Crawfish Orconectes virilis	Illinois		D	5.4	McNurney et al. (1977)
Paguristes sericeus	Puerto Rico		D	(27.0-42.0) 35.0	Lowman et al. (1966)
" "	"		W	(8.5-13.0) 11.3	"
Hermit crab Pagurus bernhardus			A	300.0	Vinogradov (1953)
Grass shrimp Palaemonetes pugio	Virginia (natural marsh)	whole		0.2±SD 0.3	Drifmeyer & Odum (1975)
" "	" (spoil disposal area)	"		11.0±SD 1.8	"
Pink shrimp Pandalus borealis	Florida		W	0.3	Ogden et al. (1974)
" "	E. United States	without skin	W	(0.1-0.61) 0.39±SD 0.15	Zook et al. (1976)
" "				0.5	Vinogradov (1953)
Pink shrimp Pandalus jordani	Oregon	whole	D	(1.3-3.5) 2.02	Cutshall & Holton (1972)
" "	"	muscle	D	(1.9-3.5)2.70	"
Shrimp Pandalus montagui	Scotland (control area)	soft parts	D	24.0	Mackay et al. (1972)
" "	" (sewage dump area)	"	D	31.0	"
Spiny lobster Panulirus argas	N.W. Atlantic		D	<1.0	Windom (1972)
" "	Puerto Rico		D	(5.0-13.0) 8.50	Lowman et al. (1966)

Spiny lobster Panulirus borealis	Florida		W	(0.2-1.4)	Ogden et al. (1974)
" "	"	tail muscle	W	(0.04-1.57) 0.55±SD 0.41	Zook et al. (1976)
Spiny lobster Panulirus interruptus	California	"	W	(0.024-0.057)	Chow et al. (1976)
" "	"	"	D	(0.11-0.27)	"
King crab Paralithodes camschatica	Alaska	leg muscle	W	(0.2-0.70) 0.38±SD 0.22	Zook et al. (1976)
" "	"	body muscle	W	(0.00-0.96) 0.45±SD 0.34	"
Brown shrimp Penaeus aztecus	Texas	muscle	D	(0.5-1.6)1.1	Horowitz & Presley (1977)
" "	"	exoskeleton	D	(10.8-29.4)17.1	"
" "	"	viscera	D	(2.3-3.1)2.8	"
" "	"	whole	D	(<0.2-0.2)	Sims & Presley (1976)
" "	"		W	(0.10-1.19) 0.48±SD 0.36	Zook et al. (1976)
Blueleg king prawn Penaeus latisulcus	Thailand		W	<0.01	Huschenbeth & Harms (1975)
Prawn Penaeus merguiensis	"		W	0.043	"
Tiger prawn Penaeus monodon	"		W	0.040	"
Green tiger prawn Penaeus semisulcatus	"		W	0.22	"

White shrimp *Penaeus setiferus*	S.E. United States	whole	D	<0.2	Windom (1972)
" "	Mississippi	without skin	W	(0.18-1.44) 0.56±SD 0.49	Zook et al. (1976)
" "	Florida	"	W	(0.16-1.20) 0.47±SD 0.33	"
Copepod *Pleuromamma xiphias*	Puerto Rico (depth 100 m)	whole	A	(75.0-410.0)	Martin (1970)
" "	" "	"	D	(25.0-136.7)	"
" "	" "	"	W	(3.0-8.4)	"
Crawfish *Procambarus sp.*	Illinois	"	D	15.73±SD 0.01	Anderson (1977)
Kelp crab *Pugettia producta*	California	feces	A	(27.0-43.0) 39.0	Boothe & Knauer (1972)
Copepod *Undinula vulgaris*	Puerto Rico (surface)	whole	A	(25.0-370.0)	Martin (1970)
" "	" "	"	D	(8.3-123.3)	"
" "	" "	"	W	(1.0-14.5)	"
Shrimp *Xiphopenaeus krogeri*	"		D	(3.0-26.0) 13.4	Lowman et al. (1966)
" "	"		W	(2.0-7.0) 3.70	"
"Rock shrimp"	Texas	muscle	D	(1.1-2.0)1.6	Horowitz & Presley (1977)
"	"	exoskeleton	D	(13.5-16.6)15.4	"

INSECTA				
Neuroptera				
Hellgrammite Corydalis cornuta?	Missouri (tailings pond)	larva	D 5,892.0	Gale et al. (1976)
Odonata				
Dragonfly Anisoptera	Illinois		D 7.0	Illinois (1974)
Damselfly Zygoptera	"		D 36.0	"
Damselfly Amphiagrion sp.	"	nymph	D <4.0	Anderson (1977)
Damselfly Argia sp.	"	"	D 23.71	"
Dragonfly Anax sp.	"	"	D 20.20±SD 0.06	"
"Dragonfly"	Missouri	"	D 117.0	Gale et al. (1976)
Orthoptera				
Short-horned grasshopper Acrididae	Illinois (urban)		D (31.0-84.0)	Illinois (1974)
"	" (rural)		D (6.0-22.0)	"
Long-horned grasshopper Tettigoniidae	" (urban)		D (17.0-140.0)	"
"	" (rural)		D (9.0-120.0)	"
Hemiptera				
Giant water bug Belostoma sp.	"	adult	D <4.0	Anderson (1977)
Backswimmer Notonecta sp.	"	"	D <4.0	"

Water scorpion *Ranatra sp.*	Illinois	adult	D	<4.0	Anderson (1977)
Water bug *Sigara sp.*	"	"	D	19.51±SD 0.24	"
Homoptera					
Leaf hopper *Cicadellidae*	" (urban)	whole	D	(1.0-110.0)	Illinois (1974)
"	" (rural)	"	D	(1.0-150.0)	"
Plant bug *Miridae*	" (urban)	"	D	(2.0-83.0)	"
"	" (rural)	"	D	(2.0-29.0)	"
Diptera					
Bloodworm *Chironomidae*	"		D	(11.0-106.0)	" (1972)
"	"	larva	D	29.74	Anderson (1977)
Coelopid fly *Coelopa vanduzeei*	California	whole	D	(ND-6.0)	Bender (1975)
Fruit fly *Drosophila athabasca*	Missouri	"	D	(15.1-481.5)	Lower (1974)
Fruit fly *Drosophila melanogaster*	"	"	D	(2.6-680.0)	"
Fruit fly *Drosophila robusta*	"	"	D	(12.4-409.0)	"
Collopid fly *Fucellia rufitibia*	California	"	D	(ND-6.0)	Bender (1975)
Chironomid *Pontoporeia affinis*	Washington	"	W	(0.24-7.48)	Bissonnette (1977)
Midge *Psychodidae*	Illinois		D	29.4	Illinois (1972)
Blackfly *Simulium sp.*	Missouri (tailings pond)	larva	D	14,233.0	Gale et al. (1976)

Blackfly *Simulium sp.*	Illinois	larva	D	24.04	Anderson (1977)
Flower fly *Syrphidae*	" (urban)		D	(3.0-190.0)	Illinois (1972)
"	" (rural)		D	(3.0-40.0)	"
Ephemeroptera					
Mayfly *Baetis sp.*	"	whole nymph	D	<4.0	Anderson (1977)
Mayfly *Hexagenia limbata*	"	whole	D	(4.8-20.0)	Illinois (1972)
" "	"	"	D	10.4	McNurney et al. (1977)
Mayfly *Hexagenia sp.*	"	whole nymph	D	29.12±SD 0.26	Anderson (1977)
Mayfly *Potamanthus sp.*	"	"	D	39.48	"
Mayfly *Stenonema sp.*	"	"	D	30.04±SD 0.34	"
Trichoptera					
Caddisfly *Cheumatopsyche sp.*	"	whole larva	D	23.72±SD 0.63	Anderson (1977)
Caddisfly *Hydropsyche sp.*	"	"	D	18.81±SD 0.74	"
"Caddisfly"	"		D	40.0	Illinois (1972)
Coleoptera					
Water beetle *Berosus sp.*	Illinois	larva	D	<4.0	Anderson (1977)
Whirligig beetle *Dineutes sp.*	"	"	D	<4.0	"

Water scavenger beetle *Helophorus sp.*		Illinois	adult	D	<4.0	Anderson (1977)
Water beetle *Tropisternus sp.*		"	larva	D	<4.0	"
Hymenoptera						
Ant *Formicidae*		"	whole	D	(3.0-240.0)	Illinois (1974)
"		"	"	D	(4.0-120.0)	"
"Insects"	Sucking	"	dist. from highway (meters):			Illinois (1974)
"	"	"	" 0-7	D	15.7	"
"	"	"	" 13-20	D	8.8	"
"	"	"	distant	D	4.8	"
"	Chewing	"	dist. from highway (meters):			
			0-7	D	27.3	"
"	"	"	" 13-20	D	10.4	"
"	"	"	distant	D	5.4	"
"	Predatory	"	dist. from highway (meters):			
			0-7	D	31.0	"
"	"	"	" 13-20	D	20.0	"
"	"	"	distant	D	6.3	"

LEAD IN LOWER ANIMALS(1)

Species	Locality	Tissue	Analysis(2) PPM	Authority
ECHINODERMATA				
Sea urchin *Arbacia lixula*	Italy (unpolluted)	soft parts	D 21.0±SE 0.6	Sheppard & Bellamy (1974)
" "	" Bay of Naples (polluted)	"	D 58.6±SE 11.2	"
Sea star *Asterias rubens*	Sweden		A 50.0	Noddack & Noddack (1940)
" "			D 15.0	"
" "	Norway	soft parts	D (110.0-460.0)	Stenner & Nickless (1974)
" "	Spain & Portugal		D (14.0-22.0)	" (1975)
Sea urchin *Brissopsis lyrifera*	Sweden	shell	D 5.2	Noddack & Noddack (1940)
Sand dollar *Mellita lata*	Puerto Rico		D (90.0-170.0) 120.0	Lowman et al. (1965)
" "	"		W (51.0-98.0) 70.0	"

---

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Sea urchin *Paracentrotus lividus*	Italy (unpolluted)	soft parts	D	20.0±SE 2.6	Sheppard & Bellamy (1974)
" "	" Bay of Naples (polluted)	"	D	42.3±SE 8.0	"
Sea cucumber *Stichopus tremulus*	Sweden	without viscera	D	21.0	Noddack & Noddack (1940)
ANNELIDA					
Earthworm *Alabophora sp.*	Tennessee		D	(4.0-5.5)	Anderson et al. (1973)
Earthworms (3 species) *Alabophora sp.* *Lumbricus sp.* & *Octolasium sp.*	 " " "		D	(4.0-5.5)	Van Hook (1974)
Earthworms (4 species) *Allolobophora chlorotica* " *trapezoides* " *turgida* & *Lumbricus terrestris*	 Maryland, heavy Pb pollution " " " " " " " " " " " "				Gish & Christensen (1973)
	Distance from highway	meters:			
" "	"	3.0	D	269.8	"
" "	"	6.1	D	113.1	"
" "	"	12.2	D	80.5	"
" "	"	24.4	D	43.5	"
" "	"	48.8	D	52.7	"
Polychaete worm *Cirriformia luxuriosa*	California		D	(0.4-2.2)	Emerson et al. (1976)
Oligochaete worm *Dendrobaena rubida*	Wales		D	(0.01-0.04)	Ireland & Wooton (1976)
Earthworm *Eisenia bicyclis*	Japan		D	(7.0-16.0)	Fujinaga et al. (1962)

Earthworm *Eisenia rosea*	Illinois (control)		D	32.0	Illinois (1972)
" "	" (exp. 55 cm sludge)		D	97.0	"
" "	" (exp. 110 cm sludge)		D	142.0	"
" "	" (1600 kg Pb/hectare)		D	624.0	"
" "	" (max. observed)		D	981.0	"
Worm leech *Herpobdella sp.*	Illinois	whole	D	39.78±SD 0.08	Anderson (1977)
Leech *Hirudinea*	"		D	(3.3-17.0)	Illinois (1972,1974)
"	"		D	12.6	McNurney et al. (1977)
Tubificid worm *Limnodrilus hoffmeisteri*	"		W	(6.0-39.0) 17.0	Mathis & Cummings (1973)
Earthworm *Lumbricus sp.*	Tennessee		D	(4.0-5.5)	Anderson et al. (1973)
Lumbrineris sp.	California		D	0.7	Emerson et al. (1976)
Nephthys sp.			A	600.0	Webb (1937)
Sandworm *Nereis diversicolor*	Great Britain		W	(0.7-1.1)	Bryan (1971)
" "	"		W	(0.1-4.8)	Wharfe & Van Den Broek (1977)
Polychaete worm *Notomastus tenuis*	California		D	1.2	Emerson et al. (1976)
Oligochaeta	Illinois		D	(13.0-48.0)	Illinois (1972)
"	"		D	13.2	McNurney et al. (1977)

Earthworm *Octolasium sp.*			D	(4.0-5.5)	Anderson et al. (1973)
Turtle leech *Placobdella sp.*	Illinois	whole	D	<4.0	Anderson (1977)
Polychaete worm *Sigambra tentaculata*	California		D	(0.4-1.3)	Emerson et al. (1976)
Tubificid worm *Tubifex tubifex*	Illinois		W	(6.0-39.0) 17.0	Mathis & Cummings (1973)
Tubificid worm *Tubificidae*	" (rural)			(11.0-39.6)	Anderson et al. (1973)
"	" (urban)			(140.0-368.0)	"
"	"		D	16.0	McNurney et al. (1977)
COELENTERATA					
Coral *Anomacora fecunda*	W. Atlantic Ocean		D	4.0	Livingston & Thompson (1971)
Coral *Bathycyathus maculatus*	"		D	4.0	"
Coral *Caryophyllia clavus*	"		D	3.0	"
Coral *Caryophyllia communis*	"		D	<2.0	"
Coelenterate *Cerianthus sp.*	California		D	0.4	Emerson et al. (1976)
Coral *Cladocera patriarca*	W. Atlantic Ocean		D	5.0	Livingston & Thompson (1971)

Jellyfish *Cynaea capillata*	Sweden		D	27.0	Noddack & Noddack (1940)
" "	N.W. Atlantic	whole	A	6.0	Nicholls et al. (1959)
Coral *Dendrophyllia sp.*	W. Atlantic Ocean		D	9.0	Livingston & Thompson (1971)
Coral *Desmophyllum cristogalli*	"		D	(<2.0-8.0)	"
Coral *Madracis mirabilis*	"		D	<2.0	"
Coral *Madracis pharensis*	"		D	<2.0	"
Coral *Meandrina areolata*	"		D	<2.0	"
Coral *Meandrina braziliensis*	"		D	<2.0	"
Coral *Meandrina meandrites*	Puerto Ricc		D	(13.0-140.0) 97.0	Lowman et al. (1965)
" "	"		W	(3.2-130.0)93.0	"
Sea anemone *Metridium dianthus*	Sweden		D	43.0	Noddack & Noddack (1940)
Coral *Montastrea annularis*	W. Atlantic Ocean		D	<2.0	Livingston & Thompson (1971)
Coral *Phyllangia americana*	"		D	4.0	"
Coral *Porites porites*	"		D	<2.0	"
Coral *Scolmia cubensis*	"		D	(<2.0-3.0)	"

Coral Solenosmilia variabilis	W. Atlantic Ocean		D	(<2.0-42.0)	Livingston & Thompson (1971)
Coral Trochocyanthus sp.	"		D	4.0	"
"Jellyfish"	New York Bight		D	13.0	Greig et al. (1977a)
TUNICATA					
Tunicate Ascidella aspersa	Russia		A	150.0	Kovalskii et al. (1962)
Tunicate Ciona intestinalis	Sweden		D	1.1	Noddack & Noddack (1940)
" "	California	tunic	D	0.4	Emerson et al. (1976)
" "	"	internal organs	D	1.1	"
Tunicate Salpa fusiformis			A	3.0	Nicholls et al. (1959)
Tunicate Styella montereyensis	California	whole	D	(1.0-14.5)	Chow et al. (1976)
CTENOPHORA					
Comb jellyfish Beröe cucumis	N.W. Atlantic	"	A	6.0	Nicholls et al. (1959)
"Comb jellyfish"	New York Bight	"	D	(12.0-68.0)	Greig et al. (1977a)
CHAETOGNATHA					
Sagitta elegans	"	"	A	300.0	Nicholls et al. (1959)
NEMERTEA					
Lineus longissimus			A	600.0	Webb (1937)

PORIFERA			
Sponge *Halichondria sp.*	Sweden	D 5.5	Noddack & Noddack (1940)

BEGIN FIRST LINE OF TEXT HERE
TYPING GUIDE SHEET
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD: BEGIN SECTIONS HERE

LEAD IN HIGHER PLANTS (1)

Species	Locality	Tissue	Analysis PPM (2)	Authority
Balm fir *Abies grandis*	Vancouver British Columbia	trunk	A (350.0-1400.0)	Warren et al. (1966)
" "	"	needle	A (110.0-1200.0)	"
Norway maple *Acer plantanoides*	Connecticut	shoot	D 164±SE 11.0	Smith (1972)
" "	"	leaf	D 146.0±SE 18.0	"
" "	"	twig	D 101.0±SE 10.0	"
Sycamore *Acer pseudoplatanus*	New Zealand (highway)	washed leaf	A 840.0	Ward et al. (1974)
" "	" (background)	"	A 20.0	"
Red maple *Acer rubrum*	Georgia	stem	A (<10.0-2000.0)	Connor & Shacklette (1975)
" "	"	leaf	A (<10.0-700.0)	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

PAGE NUMBER
EPA-287 (Cin.)
(4-76)

Sugar maple *Acer saccharum*	Connecticut	shoot	D	158.0±SE 35.0	Smith (1972)
" "	"	leaf	D	64.0±SE 12.0	"
" "	"	twig	D	113.0±SE 20.0	"
Horse chestnut *Aesculus hippocastanum*	New Zealand (highway)	washed leaf	A	460.0	Ward et al. (1974)
" "	" (background)	"	A	50.0	"
" "	Scotland	bark	D	375.0	Barnes et al. (1976)
Tree *Afzelia africana*	Nigeria	normal	D	0.8	Hawkes & Webb (1962)
" "	"	on lead anomaly	D	140.0	"
Bent grass *Agrostis stolonifera*	Great Britain	mine spoil	D	(120.0-150.0)	Shimwell & Laurie (1972)
Colonial bentgrass *Agrostis tenuis*	"	"	D	80.0	"
Mimosa *Albizia zugia*	Nigeria	normal	D	0.4	Hawkes & Webb (1962)
" "	"	on lead anomaly	D	23.0	"
Onion *Allium cepa*	Germany (from highway 10 m)		W	8.0	Mollenhauer (1972)
" "	" " 50 m		W	4.0	"
" "	British Columbia		D	(1.0-3.0)2.0	Warren et al. (1970)
" "	Ontario	leaf	D	(7.6-9.9)	Hutchinson et al. (1974)
" "	"	root	D	(24.1-30.5)	"

Onion Allium cepa	Ontario	bulb	D	4.9	Hutchinson et al. (1974)
" "	New York	"		(0.8-1.0)	Elfving et al. (1978)
Small ragweed Ambrosia elatior	Illinois		D	11.2	Illinois (1972)
Peach Amygdalus persica	Germany	fruit	W	(0.01-0.04)	Mollenhauer (1972)
Celery Apium graveolens	" (from highway 8 m)		W	4.2	"
" "	United States	stalk	W	0.1	Schroeder & Balassa (1961)
" "	"	"	W	0.02	Cole & Lynam (1973)
" "	California	"	W	(0.0-0.12)	Goldsmith (1974)
Parsley Apium petroselinum	United States	leaf	W	(0.0-0.1)	Schroeder & Balassa (1961)
" "	California	"	W	(0.20-1.25)	Goldsmith (1974)
Goatsbeard Aruncus aruncus	Illinois		D	5.2	Illinois (1972)
Milkweed Asclepias sp.	"		D	6.0	"
Artichoke	United States	outer leaf	W	0.04	Cole & Lynam (1973)
Aster Aster spp.	Illinois		D	6.9	Illinois (1972)

Oat *Avena sativa*	Germany (from highway 8 m)	grain	W	6.4	Mollenhauer (1972)
" "	" (" 50 m)	"	W	4.4	"
" "	" (" 100 m)	"	W	3.4	"
" "	United States		W	(0.56-0.62)	Schroeder & Balassa (1961)
" "	" (from highway 10 m)	"	D	0.47	Ter Haar (1970)
" "	" (" 175 m)	"	D	0.53	"
" "	" (" 10 m)	chaff	D	31.4	"
" "	" (" 175 m)	"	D	12.8	"
Tree *Baphia nitida*	Nigeria (normal)		D	0.4	Hawkes & Webb (1962)
" "	" (on lead anomaly)		D	16.0	"
Yellow rocket *Barbarea barbarea*	Illinois		D	6.4	Illinois (1972)
Tawa *Beilschmiedia tawa*	New Zealand	leaf	A	229.0±SD 360.0	Timperley et al. (1970)
English daisy *Bellis perennis*	" (near highway)	root	D	165.0	Ward et al. (1977)
" "	" "	leaf	D	313.0	"
Beet *Beta vulgaris*	United States	leaf & stem	W	0.36	Schroeder & Balassa (1961)
" "	Belgium (near highway 35 m)	leaf	D	124.0	Impens et al. (1973)

EPA-287 (Cin.)
(4-78)

TYPING GUIDE SHEET

Beet *Beta vulgaris*	Belgium (near highway 20 m)	stem	D	58.0	Impens et al. (1973)
" "	Netherlands	leaf	D	(3.3-4.8) 4.1	Rameau (1973)
" "	"	beet	D	0.3	"
" "	Montana (lead smelter area)		W	(0.4-15.0)	Hindawi & Nealy (1972)
" "	British Columbia	leaf & stem	D	(0.4-6.0) 2.0	Warren et al. (1970)
" "	"		W	0.20	Warren (1972)
Swiss chard *Beta vulgaris cicla*	"	leaf & stem	W	0.75	"
" " "	Belgium (near highway 10 m)	"	D	238.0	Impens et al. (1973)
" " "	" (" 15 m)	leaf	D	220.0	"
" " "	" (" 20 m)	"	D	154.0	"
" " "	Maryland (control)	leaf & stem	D	(2.3-2.7)	Furr et al. (1976)
" " "	" (grown on sludge-fortified soil)	"	D	(6.5-7.0)	"
" " "	British Columbia		D	(0.5-5.0)3.0	Warren et al. (1970)
" " "	California	leaf & stem	W	(0.15-2.41)	Goldsmith (1974)
Yellow birch *Betula lutea*	Missouri	twig	D	175.0	Cannon & Anderson (1971)
Birch *Betula sp.*	Sweden (maximum)	bark	A	6,100	Nillson (1969)

EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET

Birch *Betula sp.*	Sweden (indicates ore body)	bark	A	1,000.0	Nillson (1969)
Kale *Brassica oleracea acephala*	United States		W	1.26	Schroeder & Balassa (1961)
Cauliflower *Brassica oleracea botrytis*	"	leaf	W	0.09	"
" " "	Germany (from highway 10 m)		W	8.0	Mollenhauer (1972)
" " "	" (" 50 m)		W	4.0	"
" " "	Great Britain		W	(0.01-0.51) 0.03	Barltrop (1973)
" " "	Montana (lead smelter area)		D	<10.0	Gordon (1972)
" " "	"		W	(0.0-8.6)	Hindawi & Neely (1972)
Cabbage *Brassica oleracea capitata*	Germany (normal)	head	W	0.02	Mollenhauer (1972)
" " "	" (grown near highway)	"	W	(0.11-0.17)	"
" " "	United States (normal)	"	W	0.02	Schroeder & Balassa (1961)
" " "	British Columbia	"	D	(0.5-4.0) 1.7	Warren et al. (1970)
" " "	New York	"	D	(1.4-1.5)	Elfving et al. (1974)
Kohlrabi *Brassica oleracea gongyloides*	United States		W	0.28	Schroeder & Balassa (1961)

EPA-287 (Cin.)
(4-75)

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD, BEGIN SECTIONS HERE

Kohlrabi *Brassica oleracea gongyloides*	Montana (Pb smelter area)		W	(0.1-4.0)	Hindawi & Neely (1972)
Broccoli *Brassica oleracea italica*	United States		W	0.07	Schroeder & Balassa (1961)
" " "	"	flower	W	0.3	Cole & Lyman (1973)
" " "	"	stalk	W	0.04	"
Brome grass *Bromus inermis*	(grown in 680 ppm Pb soil)			34.0	in Rolfe (1973)
Brome grass *Bromus spp.*	Illinois		D	7.1	Illinois (1972)
Tea *Camellia sinensis*			W	1.37	Schroeder & Balassa (1961)
Bluebell *Campanula rotundifolia*	Great Britain (mine spoil)		D	(15.0-250.0)	Shimwell & Laurie (1972)
Chili pepper *Capsicum annuum*	United States	fruit	W	0.18	Schroeder & Balassa (1961)
Green pepper *Capsicum frutescens*	Germany	"	W	(0.06-0.09)	Mollenhauer (1972)
" "	California	"	W	(0.03-0.18)	Goldsmith (1974)
Shagbark hickory *Carya ovata*	Kentucky		A	(70.0-510.0)	Conner & Shacklette (1975)
" "	Missouri		A	(30.0-300.0)	"

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA, OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
PAGE NUMBER
EPA-287 (Cin.) (4-76)

TYPING GUIDE SHEET

Hickory Carya spp.	Tennessee	leaf	D	7.8	Van Hook et al. (1974)
" "	"	twig	D	6.8	"
" "	"	branch	D	4.9	"
" "	"	bole	D	2.8	"
" "	"	root	D	8.3	"
" "	"	litter	D	25.0	"
Coontail Ceratophyllum demersum	Michigan		D	(1.06-2.35) 1.45±0.22	Mathis & Kevern (1975)
Yellow foxtail Chaetochloa glauca	Illinois		D	3.8	Illinois (1972)
Chicory Cichorium intybus			W	0.81	Schroeder & Balassa (1961)
" "	Virginia		D	24.46	Goldsmith et al. (1976)
Cinnamon Cinnamomum zeylandicum			W	0.11	Schroeder & Balassa (1961)
" "	Canada			4.5	Larkin et al. (1954)
Orange Citrus sinensis	California	washing removed 50% of Pb from skin			Schuck & Locke (1970)
" "	"	fruit	W	(0.04-0.12)	Goldsmith (1974)
Dogwood Cornus florida	Tennessee	twig	D	11.0	Van Hook et al. (1974)
" "	"	branch	D	5.2	"

EPA-287 (Cin.)
(4-76)

Dogwood *Cornus florida*	Tennessee	bole	D	2.8	Van Hook et al. (1974)
Hawthorn *Crataegus monogyna*	Great Britain (near smelter)	unwashed leaf	D	509.0 ± SE 61.1	Little (1973)
Hawksbeard *Crepis sp.*	New Zealand (near highway)	root	D	225.0	Ward et al. (1977)
" "	" "	leaf	D	1,044.0	"
Cucumber *Cucumis sativus*	Germany (normal)		W	0.03	Mollenhauer (1972)
Carrot *Daucus carota*	" (from highway 8 m)	root	W	6.0	"
" "	Great Britain	"	W	0.02	Tolan & Elton (1973)
" "	Belgium (near highway 15 m)	leaf	D	112.0	Impens et al. (1973)
" "	" "	stem	D	(42.0-55.0)	"
" "	United States	peel	W	0.06	Cole & Lynam (1973)
" "	"	inner portion	W	0.0	"
" "	Montana (lead smelter area)		W	(0.3-4.0)	Hindawi & Neely (1972)
" "	British Columbia		D	(1.0-10.0) 3.2	Warren et al. (1970)
" "	"		W	0.22	Warren (1972)
" "	Ontario	leaf	D	(9.7-11.9)	Hutchinson et al. (1974)

Carrot *Daucus carota*	Ontario	root	D	(4.4-18.4)	Hutchinson et al. (1974)
" "	Kansas (lead area)		D	14.3	Lagerwerff & Brower (1974)
" "	Washington, D.C.		D	8.8	"
" "	New York (control)		D	1.0	Elfving et al. (1974)
" "	" (on old orchard soil)		D	7.1	"
" "	California		W	(<0.01-0.31)	Goldsmith (1974)
Orchard grass *Dactylis glomerata*	New Zealand (near highway)	root	D	376.0	Ward et al. (1977)
" "	" "	leaf	D	332.0	"
Persimmon *Diospyros virginiana*	Georgia	stem	A	(<10.0-1,500.0)	Connor & Shacklette (1975)
" "	"	leaf	A	(<10.0-700.0)	"
Japanese millet *Echinochloa crusgalli* var. *frumentacea*	New York (control)	root	D	1.1	Elfving et al. (1978)
" " "	" (on old orchard soil)	root	D	6.8	"
Autumn olive *Eleagnus umbellata*	(in 600 ppm Pb soil)	leaf	A	95.0	Rolfe (1973)
" "	"	stem	A	140.0	"
Horsetail *Equisetum arvense*	New Hampshire	"	D	140.0	Cannon et al. (1968)

Horsetail *Equisetum fluviatile*	Nova Scotia	root	D	(1.39-47.4)	Ray & White (1976)
" "	"	stem	D	(1.18-5.59)	"
Cloves *Eugenia aromatica*			W	0.1	Schroeder & Balassa (1961)
Buckwheat *Fagopyrum fagopyrum*			W	0.19	"
Fescue grass *Festuca ovina*	Great Britain (mine spoil)		D	50.0	Shimwell & Laurie (1972)
Red fescue grass *Festuca rubra*	Wales (downwind from industry 1.5 km)		D	814.0	Goodman & Roberts (1971)
" "	" " 3 km		D	86.0	"
" "	" " 8 km	leaf	D	30.0	"
" "	" " 25 km	"	D	14.5	"
" "	" (uncontaminated)	"	D	(5.5-12.5)	"
" "	" (low contamination)		D	(5.0-50.0) 13.5±SE 0.14	Roberts & Goodman (1973)
" "	" (near smelter)		D	(92.0-1,475)	"
Fig *Ficus carica*	California	fruit	W	(0.09-0.29)	Goldsmith (1974)
Strawberry *Fragaria vesca*	Germany	"	W	0.09	Mollenhauer (1972)
" "	California	"	W	(0.45-0.47)	Goldsmith (1974)
" "	United States	"	W	0.02	Cole & Lynam (1973)

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD, BEGIN SECTIONS HERE
BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
PAGE NUMBER
EPA-287 (Cin.) (4-76)

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD BEGIN SECTIONS HERE

Strawberry __Fragaria__ __vesca__	S. California	berry	D 0.31	Page et al. (1971)
" "	"	leaf	D (5.3-7.7)	"
Ash __Fraxinus__ __excelsior__	New Zealand (near highway)	washed leaf	A 460.0	Ward et al. (1974)
" "	" (background)	"	A 50.0	"
Soybean __Glycine__ __max__	United States (from highway 10 m)	husk	D 15.9	Ter Haar (1970)
" "	" (" 175 m)	"	D 5.3	"
" "	" (" 10 m)	bean	D 0.28	"
" "	" (" 175 m)	"	D 0.1	"
" "	Illinois (from highway 5 m)		D 35.0	Illinois (1971)
" "	" (" 125 m)		D 8.0	"
"Grass"	Canada, N.E. (distance from Pb smelter 80 m)		D 2714.0	DeKoning (1974)
"	" (" 170 m)		D 364.0	"
"	" S.W. (" 80 m)		D 1347.0	"
"	" " (" 170 m)		D 445.0	"
"	" (in all directions from Pb smelter 80 m)		D 1028.0	"
"	" " " 170 m)		D 266.0	"
"	summer		D 1.0	Mitchell & Reith (1966)
"	autumn		D 10.0	"
"	winter		D (30.0-40.4)	"

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA, OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

EPA-287 (Cin.)
(4-76)

"Grass"	Netherlands (near highway center strip)		D	550.0	Rameau (1973)
"	" (near highway side strip)		D	135.0	"
"	" (near highway-pasture 40 m)		D	110.0	"
"	" (near highway-pasture 130 m)		D	380.0	"
"	Montana (Pb smelter area)		W	(1.4-100.0)	Hindawi & Neely (1972)
Gomphrena canescens	Australia	flower	D	114.0	Cannon (1974)
Gooseberry Grossularia reclinata	Germany	berry	W	0.04	Mollenhauer (1972)
Yorkshire fog Holcus lanatus	New Zealand (near highway)	root	D	408.0	Ward et al. (1977)
" "	" "	leaf	D	553.0	"
Barley Hordeum vulgare		"		3.0	in Rolfe (1973)
" "	Montana (Pb smelter area)	kernel	W	(0.3-9.8)	Hindawi & Neely (1972)
" "	" "	straw	W	142.8	"
Hops Humulus humulus	Canada		D	9.3	Larkin et al. (1954)
Cedar Juniperus virginiana	Missouri	twig & leaf	D	(4.5-29.0)	Connor et al. (1970)
Lettuce Lactuca sativa	Germany (from highway 2 m)		W	44.2	Mollenhauer (1972)
" "	" (" 10 m)		W	16.5	"
" "	" (" 50 m)		W	4.5	"

Lettuce *Lactuca sativa*		(grown in unfiltered air)		D	6.6	Ter Haar (1970)
" "		(grown in filtered air)		D	3.2	"
" "		United States (from highway 10 m)		D	6.5	"
" "		" (" 175 m)		D	4.8	"
" "		"		W	(0.03-1.04)	Schroeder & Balassa (1961)
" "		" (" <90 m)	unwashed		0.91	Droege (1965)
" "		" " < "	washed		0.48	"
" "		" " > "	unwashed		0.51	"
" "		" " > "	washed		0.12	"
" "		Belgium (near highway 15 m)	leaf	D	(99.0-110.0)	Impens et al. (1973)
" "	(Romaine)	United States	outer leaf	W	0.18	Cole & Lynam (1973)
" "	"	"	inner leaf	W	0.01	"
" "		Montana (lead smelter area)	unwashed	D	(12.0-460.0)	Gordon (1972)
" "		" "	washed	D	(<10.0-46.0)	"
" "		"		W	(1.2-17.2)	Hindawi & Neely (1972)
" "		British Columbia (contaminated)	leaf	D	(1.0-19.0)4.0	Warren et al. (1970)
" "		" (normal)		W	0.25	Warren (1972)

TYPING GUIDE SHEET

Lettuce *Lactuca sativa*	Kansas (lead area)		D	8.9	Lagerwerff & Brower (1974)
" "	Washington, D.C.		D	11.0	"
" "	California		W	(0.04-0.54)	Goldsmith (1974)
Western larch *Larix occidentalis*	Idaho	leaf & twig	D	100.0	Kennedy (1961)
Lespedeza *Lespedeza sericea*	Virginia		D	19.97	Goldsmith et al. (1976)
Privet *Ligustrum vulgare*	Great Britain (near road)		D	to 223.47	Everett et al. (1967)
" "	" "		W	to 20.0	"
" "	Belgium (near road)		D	(126.0-167.0)	Impens et al. (1973)
Sweet gum *Liquidambar styraciflua*	Georgia	stem	A	(<10.0-700)	Connor & Shacklette (1975)
" "	"	leaf	A	(<10.0-300)	"
" "	Missouri		A	(<20.0-300)	"
Tulip tree *Liriodendron tulipifera*	(in 600 ppm Pb soil)	leaf	A	45.0	Rolfe (1973)
" "	"	stem	A	140.0	"
" "	(in 600 ppm Pb solution)	leaf	A	430.0	"
" "	Tennessee	"	D	2.7	Van Hook et al. (1974)
" "	"	twig	D	1.7	"
" "	"	branch	D	3.1	"

EPA-287 (Cin)
(4-76)

Tulip tree *Liriodendron tulipifera*	Tennessee	bole	D	0.6	Van Hook et al. (1974)
" "	"	root	D	3.1	"
" "	"	litter	D	31.0	"
Perennial ryegrass *Lolium perenne*	New Zealand (near highway)	root	D	480.0	Ward et al. (1977)
" "	" "	leaf	D	345.0	"
Birdsfoot trefoil *Lotus corniculatus*	Great Britain (mine spoil)		D	68.0	Shimwell & Laurie (1972)
Tomato *Lycopersicum esculentum*	(grown in 4 ppm Pb soil)	leaf	D	16.0	Motto et al. (1970)
" "	"	stem	D	87.0	"
" "	"	fruit	D	2.1	"
" "	United States (from highway 10 m)	"	D	1.3	Ter Haar (1970)
" "	" " 175 m	"	D	1.6	"
" "	California	"	W	(<0.01-0.18)	Goldsmith (1974)
" "	"	Washing removed 80% of Pb from skin.			Schuck & Locke (1970)
" "	United States		W	0.02	Schroeder & Balassa (1961)
" "	British Columbia		D	(1.0-6.0) 3.0	Warren et al. (1970)
" "	Germany	fruit	W	(0.05-0.12)	Mollenhauer (1972)
" "	Kansas (lead area)		D	28.0	Lagerwerff & Brower (1974)

Tomato Lycopersicum esculentum	Washington,D.C.		D	18.2	Lagerwerff & Brower (1974)
" "	New York		D	(0.8-0.9)	Elfving et al. (1978)
Apple Malus malus	California	fruit	W	(<0.01-0.20)	Goldsmith (1974)
" "	Germany (from highway 5 m)	leaf	W	10.66	Mollenhauer (1972)
" "	" "	fruit	W	(0.34-0.60)	"
" "	" (uncontaminated)	"	W	(0.02-0.08)	"
" "	United States (6" diam. tree)	leaf	W	4.49	Schroeder & Balassa (1961)
" "	" "	twig	W	20.75	"
" "	" "	bark	W	22.6	"
" "	" (14" diam. tree)	leaf	W	0.0	"
" "	" "	twig	W	4.78	"
" "	" "	fruit	W	0.38	"
" "	Great Britain	"		(0.01-0.6) 0.14	Barltrop (1973)
" "	Montana (Pb smelter area)		W	(0.7-0.8)	Hindawi & Neely (1972)
Alfalfa Medicago sativa	S. California	unwashed leaf	D	29.0	Page et al. (1971)
" "	"	washed once	D	18.2	"
" "	"	" 2 x	D	12.6	"
" "	"	" 3 x	D	12.0	"

TYPING GUIDE SHEET

Alfalfa *Medicago sativa*	S. California	stem	D	9.2	Page et al. (1971)
" "	"	" washed 2X	D	2.9	"
" "	Montana (Pb smelter area)		W	(2.5-42.0)	Hindawi & Neely (1972)
Minuartia *Minuartia verna*	Great Britain (mine spoil)		D	(60.0-500.0)	Shimwell & Laurie (1972)
Molina altissima	Germany	stem & leaf	A	35,600	Cannon (1974)
Mulberry *Morus sp.*	Japan (0.4-2.5 km from zinc refinery)	leaf		(41.0-160.0)	Kobayashi et al. (1970)
Bay *Myrica spp.*		fruit	W	0.55	Schroeder & Balassa (1961)
Water milfoil *Myriophyllum spicatum*	Germany Ruhr River		D	30.0	Dietz (1972)
Nutmeg *Myristica fragrans*			W	0.41	Schroeder & Balassa (1961)
Tobacco *Nicotiana tabacum*	(pipe tobacco, 1951-1957)			96.0	Oliver (1957)
" "	(cigarette, 1951-1957)			143.0	"
" "	(havana cigar, 1951-1957)			414.0	"
" "		leaf	W	(19.0-80.0)	Schroeder & Balassa (1961)

EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET

Tobacco Nicotiana tabacum		leaf	W	24.11	Schroeder & Balassa (1961)
" "	Netherlands (in cities)		D	45.0	Rameau (1973)
" "	" (away from traffic)		D	5.0	"
Pond lily Nuphar luteum	Germany Ruhr River		D	20.0	Dietz (1972)
Pond lily Nuphar sp.	Michigan	stem	D	(0.398-1.522)1.043	Mathis & Kevern (1975)
" "	"	root	D	(0.198-0.510) 0.359	"
" "	"	leaf	D	(0.303-3.806) 1.154	"
Black gum Nyssa sylvatica	Tennessee	branch	D	4.6	Van Hook et al. (1974)
" "	"	bole	D	0.6	"
" "	Georgia	stem	A	(<10.0-3,000)	Connor & Shacklette (1975)
" "	"	leaf	A	(<10.0-2,000)	"
Rice Oryza sativa	United States (from highway 10 m)	straw	D	5.83	Ter Haar (1970)
" "	" " 230 m	"	D	2.13	"
" "	" " 10 m	grain	D	0.23	"
" "	" " 230 m	"	D	0.24	"

EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET

Sourwood Oxydendron arboreum	Tennessee	twig	D	4.1	Van Hook et al. (1974)
" "	"	branch	D	3.6	"
" "	"	bole	D	4.0	"
Tree Parkia oliveri	Nigeria (normal)		D	0.4	Hawkes & Webb (1962)
" "	" (on lead anomaly)		D	13.0	"
Dallis grass Paspalum dilatatum	New Zealand (near highway)	root	D	213.0	Ward et al. (1977)
" "	" "	leaf	D	305.0	"
Parsnip Pastinica sativa	Ontario	"	D	3.2	Hutchinson et al. (1974)
" "	"	root	D	9.3	"
Princess tree Paulownia tomentosa	Tokyo			(14.0-34.0)	Maeno (1971)
Smartweed Persicaria hydropiper	Illinois		D	5.1	Illinois (1972)
Garden parsley Petroselinum hortense	Germany (from highway 7 m)		W	17.8	Mollenhauer (1972)
Petunia Petunia hybrida	Netherlands (in cities, flowerboxes)		D	(60.0-3,000.0)	Rameau (1973)
Reed canary grass Phalaris arundinacea	Great Britain	shoot	D	(31.0-38.0)	Welsh & Denney (1976)
" "	"	root	D	(138.0-360.0)	"

TYPING GUIDE SHEET

Bean *Phaseolus spp.*	United States (grown in unfiltered air)		D	20.9	Ter Haar (1970)
" "	" (grown in filtered air)		D	7.9	"
Bean *Phaseolus spp.*	United States (distance from highway 10 m)		D	1.9	"
" "	" (" 175 m)		D	0.9	"
" "	New York	bean	D	(1.0-1.4)	Elfving et al. (1978)
" "			W	(0.0-0.21)	Schroeder & Balassa (1961)
" "	British Columbia		W	0.24	Warren (1972)
Bean *Phaseolus vulgaris*	Belgium (near highway 15 m)		D	51.0	Impens et al. (1973)
Grass *Phleum vulgare*	" (in forest)		D	4.0	"
Common reed *Phragmites communis*	Virginia (on dredge spoil)		D	4.4±SD 5.3	Drifmeyer & Odum (1975)
" "	" (natural marsh)		D	0.5±SD 0.6	"
Norway spruce *Picea abies*	Connecticut	shoot	D	65.0±SE 5.0	Smith (1972)
" "	"	leaf	D	75.0±SE 16.0	"
" "	"	twig	D	163.0±SE 41.0	"
" "	Scotland	bark	D	4.0	Barnes et al. (1976)
" "	"	wood	D	(2.0-8.0)	"

PAGE NUMBER
EPA-287 (Cin.) (4-76)

TYPING GUIDE SHEET

Spruce *Picea sp.*	United States	twig	W	1.6	Schroeder & Balassa (1961)
" "	"	needle	W	2.04	"
Allspice *Pimenta officionalis*		seed	W	0.64	"
Lodgepole pine *Pinus contorta*	Montana (Pb smelter area)	needle	D	(100.0-110.0)	Gordon (1972)
Shortleaf pine *Pinus echinata*	United States (in 600 ppm Pb soil)	leaf	A	95.0	Rolfe (1973)
" "	" "	stem	A	210.0	"
" "	Tennessee	leaf	D	4.2	Van Hook et al. (1974)
" "	"	twig	D	1.8	"
" "	"	branch	D	1.0	"
" "	"	bole	D	0.4	"
" "	"	root	D	2.0	"
" "	"	litter	D	31.0	"
" "	Missouri (dist. from smelter, mi:)				Bolter et al. (1973)
" "	" " 0-0.5	leaf	D	(420.0-11,750)3,546.4	"
" "	" " 0.5-1.0	"	D	(101.0-1,475)497.4	"
" "	" " 1.0-1.5	"	D	(52.0-1,050)274.6	"
" "	" " 1.5-2.0	"	D	(62.0-412.0)142.9	"
" "	" " 2.0	"	D	(22.0-661.0)123.3	"
Austrian pine *Pinus nigra*	Belgium (near highway)	needle	D	797.0	Impens et al. (1973)

EPA-287 (Cin.)
(4-76)

Yellow pine *Pinus ponderosa*	Montana (Pb smelter area)	needle	D	120.0	Gordon (1972)
Pine *Pinus sp.*	(within 15 m of highway)		D	100.0	Smith (1971)
" "	United States	twig	W	4.2	Schroeder & Balassa (1961)
" "	"	needle	W	1.8	"
" "	"	wood	W	1.6	"
White pine *Pinus strobus*	Connecticut Dist. from road, meters:				Smith (1971)
" "	" " 5	twig & needle	D	160.0	"
" "	" " 15	"	D	100.0	"
" "	" " 25	"	D	65.0	"
" "	" " 28	"	D	50.0	"
Scotch pine *Pinus sylvestris*	Pb smelter area	needle	D	(40.0-120.0)	Gordon (1972)
Loblolly pine *Pinus taeda*	United States (near highway)	leaf	A	95.0	Rolfe (1973)
" "	" "	stem	A	140.0	"
" "	" (grown in Pb soln.)	leaf	A	700.0	"
Pea *Pisum sativum*	Netherlands	"	D	2.0	Rameau (1973)
" "	United States	frozen	W	0.02	Schroeder & Balassa (1961)

TYPING GUIDE SHEET

Pea *Pisum sativum*	Great Britain		W	0.02	Tolan & Elton (1973)
" "	United States	pea & pod	W	0.02	Cole & Lynam (1973)
" "	Montana (Pb smelter area)		W	(0.4-1.5)	Hindawi & Neely (1972)
" "	British Columbia		D	(1.0-7.0)3.0	Warren et al. (1970)
Plantain, buckthorn *Plantago lanceolata*	Virginia		D	27.50	Goldsmith et al. (1976)
Plantain *Plantago major*	Belgium (near highway 1 m)		D	(111.0-256.0)	Impens et al. (1973)
Plantain *Plantago sp.*	New Zealand (near highway)	root	D	225.0	Ward et al. (1977)
" "	"	leaf	D	1,044.0	"
Plane tree *Platanus orientalis*	"	outer bark	A	(760.0-1,800.0)	" (1974)
" "	" (background)	"	A	80.0	"
" "	" (highway)	inner bark	A	(80.0-560.0)	"
" "	" (background)	"	A	50.0	"
" "	" (highway)	leaf, washed	A	1,020.0	"
" "	" (background)	"	A	80.0	"
Blue grass *Poa annua*	" (near highway)	root	D	460.0	" (1977)
" "	" "	leaf	D	546.0	"

EPA-287 (Cin)
(4-76)

Knotweed Polygonum cuspidatum	Belgium (near highway)	leaf	D	199.0	Impens et al. (1973)
Cottonwood Populus deltoides	(in 600 ppm Pb soil)	"	A	45.0	Rolfe (1973)
" "	"	stem	A	75.0	"
Lombardy poplar Populus nigra var. italica	Scotland	bark	D	300.0	Barnes et al. (1976)
Poplar Populus sp.	Missouri	twig	D	45.0	Cannon & Anderson (1971)
Curly pondweed Potamogeton crispus	Great Britain	shoot	D	(52.0-580.0)	Welsh & Denny (1976)
" "	"	root	D	(138.0-1150.0)	"
Pondweed Potamogeton perfoliatus	"	shoot	D	(5.0-176.0)	"
Pondweed Potamogeton richardsoni	Nova Scotia	root	D	(3.66-12.8)	Ray & White (1976)
" "	"	stem & leaf	D	(2.45-4.8)	"
Pondweed Potamogeton sp.	Missouri (tailings pond)		D	11,300	Jennett & Wixson (1975)
" "	" 1 mi downstream		D	3,500	"
" "	" 5 mi "		D	100	"
Plum Prunus domestica	Germany (dist. from highway 10 m)	fruit	W	(0.18-0.25)	Mollenhauer (1972)
" "	" (normal)	"	W	(0.01-0.07)	

Black cherry *Prunus serotina*	Georgia	stem	A	(<10.0-2,000)	Connor & Shacklette (1975)
" "	"	leaf	A	(<10.0-700)	"
Douglas fir *Pseudotsuga menziesii*	Vancouver, British Columbia	trunk	A	(350.0-1400.0)	Warren et al. (1966)
" "	"	needle	A	(110.0-1200.0)	"
Douglas fir *Pseudotsuga taxifolia*	Idaho	leaf & twig	D	130.0	Kennedy (1961)
Bracken *Pteridium aquilinum*	Belgium (in forest)		D	3.0	Impens et al. (1973)
Pear *Pyrus communis*	Germany	fruit	W	(0.09-0.24)	Mollenhauer (1972)
" "	United States	"	W	0.03	Schroeder & Balassa (1961)
" "	Great Britain	"	W	0.1	Tolan & Elton (1973)
White oak *Quercus alba*	Illinois (in 600 ppm Pb soil)	leaf	A	45.0	Rolfe (1973)
" "	" "	stem	A	210.0	"
" "	Kentucky		A	(10.0-700)	Connor & Shacklette (1975)
" "	Missouri		A	(30.0-1,000)	"
" "	" Dist. from Pb smelter, mi:				Hemphill & Pierce (1974)
" "	" " 1-2	leaf	D	(78.5-1221.0) 574.3	"
" "	" " 2-3	"	D	(122.0-557.0) 299.0	"

White oak *Quercus alba*	Missouri, dist. from Pb smelter				Hemphill & Pierce (1974)
" "	" " mi: 3-4	leaf	D	(39.8-155.0)80.2	"
" "	" " 4-5	"	D	(28.2-276.0)93.0	"
" "	" " 5-6	"	D	(23.5-228.0)75.6	"
" "	" " 6-7	"	D	(26.0-121.0)54.5	"
Pin oak *Quercus palustris*	Connecticut	shoot	D	121.0±SE 20.0	Smith (1972)
" "	"	leaf	D	121.0±SE 14.0	"
" "	"	twig	D	67.0±SE 10.0	"
Willow oak *Quercus phellos*	Missouri		A	(30.0-500.0)	Connor & Shacklette (1975)
Chestnut oak *Quercus prinus*	Tennessee	leaf	D	3.2	Van Hook et al. (1974)
" "	"	twig	D	4.4	"
" "	"	branch	D	1.3	"
" "	"	bole	D	0.7	"
" "	"	root	D	3.7	"
" "	"	litter	D	27.0	"
Oak *Quercus robur*	New Zealand	washed leaf	A	580.0	Ward et al. (1974)
" "	"	"	A	100.0	"
" "	Great Britain (near smelter)	unwashed leaf	D	753.0±SE 109.0	Little (1973)
Red oak *Quercus rubra*	Illinois (in 600 ppm Pb soil)	leaf	A	45.0	Rolfe (1973)

Red oak *Quercus rubra*	Illinois (in 600 ppm Pb soil)	stem	A	75.0	Rolfe (1973)
" "	Kentucky		A	(70.0-260.0)	Connor & Shacklette (1975)
Post oak *Quercus stellata*	Missouri Dist. from smelter (mi):				Bolter et al. (1973)
" "	" " 0-0.5	leaf	D	(230-8,125.)3,776.7	"
" "	" " 0.5-1.0	"	D	(71.0-3,800)771.4	"
" "	" " 1.0-1.5	"	D	(50.0-1,580)250.0	"
" "	" " 1.5-2.0	"	D	(45.0-640.0)192.8	"
" "	" " 2.0	"	D	(18.0-1,360)169.0	"
Radish *Raphanus sativus*	Germany (from highway 10 m)	root	W	0.15	Mollenhauer (1972)
" "	Wales (grown in 12,000 ppm Pb soil)	"		500.0	Alloway (1968)
" "	"	top		136.0	"
" "	(normal soil)	root		0.8	Lagerwerff (1972)
" "	"	top		2.3	"
" "	Montana (Pb smelter area)		W	3.4	Hindawi & Neely (1972)
Buttercup *Ranunculus fluitans*	Germany Ruhr River		D	(130.0-2,500)	Dietz (1972)
Smooth sumach *Rhus glabra*	Missouri		A	(<20.0-300)	Connor & Shacklette (1973)

Sumach _Rhus sp._	United States	berry	W	0.75	Schroeder & Balassa (1961)
Black locust _Robinia pseudoacacia_	(in 500 ppm Pb soil)	leaf	A	95.0	Rolfe (1973)
" "	"	stem	A	60.0	"
" "	Belgium (heavy traffic)	leaf	A	(129.0-340.4)	Majerus & Denaeyer (1973)
" "	" (little ")	"	A	(27.0-88.0)	"
" "	" (city park)	"	A	(35.0-72.0)	"
" "	Virginia		D	(34.82-154.61)	Goldsmith et al. (1976)
Multiflora rose _Rosa multiflora_	"		D	(32.4-115.1)	"
Sour dock _Rumex acetosa_	Great Britain (mine spoil)		D	(40.0-800.0)	Shimwell & Laurie (1972)
Arrowhead _Sagittaria sagittifolium_	Germany Ruhr River		D	130.0	Dietz (1972)
Willow _Salix alba_	Great Britain (near smelter)	unwashed leaf	D	260.0±SE 45.0	Little (1973)
Sassafras _Sassafras sp._	Georgia	stem	A	(<10.0-1,000)	Connor & Shacklette (1975)
" "	"	leaf	A	(30.0-500)	"
Schefflera _Schefflera digitata_	New Zealand	"	A	174.0±SD 137.0	Timperley et al. (1970)
Horse nettle _Solanum carolinense_	Illinois		D	6.1	Illinois (1972)

Eggplant *Solanum melongena*	California	fruit	W	(0.02-0.05)	Goldsmith (1974)
Potato *Solanum tuberosum*	(grown in 4 ppm Pb in soil)	leaf	D	12.0	Motto et al. (1970)
" "	"	stem	D	123.0	"
" "	"	root	D	764.0	"
" "	"	tuber	D	1.2	"
" "	United States		W	0.12	Schroeder & Balassa (1961)
" "	"	peel	W	0.11	Cole & Lynam (1973)
" "	"	inner portion	W	0.02	"
" "	Netherlands	tuber	D	(0.4-0.7)0.5	Rameau (1973)
" "	Great Britain			(0.01-0.14) 0.09	Barltrop (1973)
" "	Montana (Pb smelter area)		W	(0.1-1.3)	Hindawi & Neely (1972)
" "	British Columbia (contam. area)		D	(1.0-13.0)4.0	Warren et al. (1970)
" "	" (normal)		W	0.40	Warren (1972)
" "	Ontario	leaf	D	(5.9-15.2)	Hutchinson et al. (1974)
" "	"	tuber	D	(4.4-4.9)	"
" "	Kansas (lead area)		D	14.1	Lagerwerff & Brower (1974)
" "	Washington,D.C.		D	10.2	"

Potato *Solanum tuberosum*	New York	tuber	D	(0.4-0.9)	Elfving et al. (1978)
" "	California	"	W	(0.02-0.13)	Goldsmith (1974)
Smooth cordgrass *Spartina alternifolia*	Virginia (on dredge spoil)		D	5.1±SD 1.2	Drifmeyer & Odum (1975)
" "	" (natural marsh)		D	1.9±SD 0.7	"
" "	Massachusetts (uncontaminated)		D	(5.4-6.8)	Banus et al. (1974)
" "	" (contaminated marsh)		D	23.2±SE 6.2	"
Saltmeadow cordgrass *Spartina patens*	Virginia (on dredge spoil)		D	9.1±SD 2.9	Drifmeyer & Odum (1975)
" "	" (natural marsh)		D	0.8±SD 1.4	"
Spinach *Spinacia oleracea*	Germany (from highway 8 m)		W	11.5	Mollenhauer (1972)
" "	" (normal)		W	0.16	"
" "	United States		W	0.16	Schroeder & Balassa (1961)
" "	Great Britain	leaf	W	0.02	Tolan & Elton (1973)
" "	United States		W	0.25	Cole & Lyman (1973)
" "	California	leaf & stem	W	(0.23-0.85)	Goldsmith (1974)
Dandelion *Taraxacum officinale*	Virginia		D	39.93	Goldsmith et al. (1976)

TYPING GUIDE SHEET

Yew *Taxus spp.*	Connecticut	shoot	D	131.0±SE 21.0	Smith (1972)
" "	"	leaf	D	139.0±SE 20.0	"
" "	"	twig	D	177.0±SE 29.0	"
Cocoa *Theobroma cacao*		seed	D	0.1	Schroeder & Balassa (1961)
" "	Canada	"		2.8	Larkin et al. (1954)
Pennycress *Thlaspi alpestre*	Great Britain		D	(100.0-2,740)	Shimwell & Laurie (1972)
Thyme *Thymus drucei*	" (mine spoil)		D	45.0	"
Spanish moss *Tillandsia usnoides*	United States		A	(70.0-50,000) geom. mean 4,200.0	Shacklette & Connor (1973)
"Tree rings"	Illinois, urban (1963-1973)		W	13.1	Illinois (1974)
" "	" " rural		W	7.9	"
" "	" (1910-1920) urban		W	2.7	"
" "	" " rural		W	1.9	"
Clover *Trifolium incarnatum*	Belgium (near highway 8 m)		D	79.0	Impens et al. (1973)
Red clover *Trifolium pratense*	Illinois		D	5.1	Illinois (1972)
White clover *Trifolium repens*	New Zealand (near highway)	root	D	645.0	Ward et al. (1977)

PAGE NUMBER
EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET

White clover *Trifolium repens*	New Zealand (near highway)	leaf	D	638.0	Ward et al. (1977)
Wheat *Triticum aestivum*	Germany (from highway 10 m)			9.0	Mollenhauer (1972)
" "	" (" " 200 m)			3.0	"
" "	United States (from highway 10 m)	husk	D	17.8	Ter Haar (1970)
" "	" (" " 175m)	"	D	6.2	"
" "	" (" " 10 m)	grain	D	0.62	"
" "	" (" " 175m)	"	D	0.48	"
" "	"		W	(0.0-0.86)	Schroeder & Balassa (1961)
" "	Montana (Pb smelter area)	"	W	(0.1-1.5)	Hindawi & Neely (1972)
" "	United States	durum	D	(0.33-0.50)	Zook et al. (1970)
" "	" "	hard wheat	D	(0.47-0.92)	"
" "	" "	soft wheat	D	(0.39-1.02)	"
Eastern hemlock *Tsuga canadensis*	Connecticut	shoot	D	184.0±SE 34.0	Smith (1972)
" "	"	leaf	D	91.0±SE 18.0	"
" "	"	twig	D	315.0±SE 75.0	"
" "	"	"	D	760.0 (max.)	"
" "	United States	bark	W	10.1	Schroeder & Balassa (1961)
" "	"	twig	W	3.0	"
" "	"	needle	W	3.2	"

EPA-287 (Cin.)
(4-76)

English elm *Ulmus campestris* (=*Ulmus glabra*)	Great Britain (near smelter)	unwashed leaf	D	(2,000-35,000)	Little (1973)
" "	" "	washed	D	(86%-95% Pb removed by washing with H_2O or HNO_3)	"
" "	" (background)	unwashed	D	20.0	"
English elm *Ulmus procera*	New Zealand (highway)	washed leaf	A	680.0	Ward et al. (1974)
" "	" (background)	"	A	60.0	"
Elm *Ulmus sp.*	United States (1865-1870)	growth rings in wood		0.16	Schroeder & Balassa (1961)
" "	" (1900-1910)	"		0.12	"
" "	" (1940-1947)	"		0.33	"
" "	" (1956-1959)	"		0.74	"
" "	"	cambium & bark		3.9	"
Blueberry *Vaccinium canadense*	New Hampshire	fruit	D	81.0	Cannon et al. (1968)
Blueberry *Vaccinium pallidum*	Missouri (dist. from smelter mi:)	leaf			Hemphill & Pierce (1974)
" "	" " 1-2	"	D	(141.0-874.0)495.3	"
" "	" " 2-3	"	D	(93.0-338.0)203.9	"
" "	" " 3-4	"	D	(21.0-146.0)76.1	"
" "	" " 4-5	"	D	(34.2-181.0)68.6	"
" "	" " 5-6	"	D	(24.0-155.0) 64.3	"
" "	" " 6-7	"	D	(29.0-101.0)41.6	"

Periwinkle *Vinca major*	Virginia		D	(24.95-35.73)	Goldsmith et al. (1976)
Fiddlewood *Vitex cuneata*	Nigeria	normal	D	0.6	Hawkes & Webb (1962)
" "	" (on lead anomaly)		D	6.0	"
Corn *Zea mays*	(grown in 1000 ppm Pb soil)	leaf		250.0	Nat. Acad. Sci. (1972)
" "	(grown in 4 ppm Pb soil)	"	D	88.0	Motto et al. (1970)
" "	" "	stalk	D	44.0	"
" "	" "	kernel	D	3.3	"
" "	United States (from highway 10 m)	husk	D	12.6	Ter Haar (1970)
" "	" (" " 175 m)	"	D	5.7	"
" "	" (" " 10 m)	kernel	D	0.39	"
" "	" (" " 175 m)	"	D	0.83	"
" "			W	(0.0-0.58)	Schroeder & Balassa (1961)
" "	Illinois (distance from road 5 m)	leaf	W	12.0	Illinois (1971)
" "	" " " 125 m	"	W	3.0	"
" "	Great Britain	kernel	W	0.01	Tolan & Elton (1973)
" "	Ohio (control)	root	D	114.0	Kirkham (1975)
" "	" (sludge in soil)	"	D	542.0	"

Corn *Zea mays*	Ohio (control)	stem	D	<5.0	Kirkham (1975)
" "	" (sludge)	"	D	<5.0	"
" "	" (control)	leaf	D	<5.0	"
" "	" (sludge)	"	D	11.0	"
" "	" (control)	husk	D	<5.0	"
" "	" (sludge)	"	D	<5.0	"
" "	" (control)	grain	D	<5.0	"
" "	" (sludge)	"	D	<5.0	"
" "	British Columbia		D	(1.0-5.0)3.0	Warren et al. (1970)
Eel grass *Zostera marinus*			D	22.0	Stenner & Nickless (1974)

LEAD IN MOSS (1)

Species	Locality	Tissue	Analysis (2) PPM	Authority
Anomodon rostratus	United States		A (300.0-3000.0)	Shacklette (1965)
Atrichum angustatum	"		A 1,000.0	"
Batramia pomiformis	"		A 150.0	"
Bazzania trilobata	"		A 300.0	"
Brachythecium rivulare	Wales (near lead mines)		D (1,330.0-8,206.0)	McLean & Jones (1975)
Brachythecium rutabulum	United States		A 500.0	Shacklette (1965)
Brachythecium salebrosum	"		A 700.0	"
Bryum capillare	"		A 300.0	"
Bryum pseudotriquetrum	Great Britain (mine spoil)		D (1,079.0-16,670.0)	Shimwell & Laurie (1972)
Camptothecium lutescens	" "		D 164.0	"
Cirriphyllum boscii	United States		A 500.0	Shacklette (1965)
Climacium americanum	"		A 300.0	"
Conocephalum conicum	"		A (100.0-500.0)	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Dicranella heteromalla	United States		A	700.0	Shacklette (1965)
Dicranella varia	Great Britain (mine spoil)		D	(540.0-11,950.0)	Shimwell & Laurie (1972)
" "	" (Botanic garden)		D	7.0	"
Dicranum scoparium	United States		A	(700.0-20,000.0)	Shacklette (1965)
Encalypta vulgaris	Great Britain (mine spoil)		D	2,423.0	Shimwell & Laurie (1972)
Entondon seductrix	United States		A	700.0	Shacklette (1965)
Eurynchium riparioides	Wales (lead mine)		D	9,650.0	McLean & Jones (1975)
Fontinalis antipyretica	Germany Ruhr River		D	(450.0-2180.0)	Dietz (1972)
Fontinalis squamosa	Wales (lead mines)		D	(1,166.6-10,800.0)	McLean & Jones (1975)
Grimmia apocarpa	United States		A	2,000.0	Shacklette (1965)
Grimmia laevigata	"		A	300.0	"
Hedwigia citiata	"		A	(150.0-3,000.0)	"
Hygroamblystegium sp.	Germany Ruhr River		D	(440.0-800.0)	Dietz (1972)
Woodland moss Hylocomium splendens	S. Sweden	(High amount of Pb absorbed. Excellent indicator.)			Ruhling & Tyler (1970)
" "	"	museum specimens (1860)	D	(18.0-20.0)	" (1968)
" "	"	" (1880)	D	(30.0-32.0)	"
" "	"	" (1900)	D	(35.0-57.0)	"
" "	"	" (1920)	D	(40.0-60.0)	"
" "	"	" (1940)	D	(30.0-47.0)	"

Woodland moss Hylocomium splendens	S. Sweden	museum specimens (1960)	D	57.0	Ruhling & Tyler (1968)
" "	"	" (1968)	D	(92.0-95.0)	"
" "	Central Norway	" (1858)	D	14.0	"
" "	Lappland	" (1902)	D	11.0	"
" "	Iceland	" (1858)	D	6.0	"
" "	W. Norway	" (1968)	D	(7.0-12.0)	"
" "	S. Sweden	Has >10x Pb than Central Norway			" (1971)
" "	Quebec Dist. from Cu smelter (km):				LeBlanc et al. (1974)
" "	" "	0.5-11	D	17,320.0	"
" "	" "	14.9	D	(936.0-1,630.0)1283.0	"
" "	" "	19.5	D	(2.2-968.0)651.0	"
" "	" "	25.4	D	(140.0-1,210.0)459.0	"
" "	" "	35.5	D	(141.0-252.0)196.5	"
Hypnum cupressiforme	S. Sweden	museum specimens (1860)	D	(18.0-27.0)	Ruhling & Tyler (1968)
" "	"	" (1880)	D	(20.0-37.0)	"
" "	"	" (1900)	D	(40.0-70.0)	"
" "	"	" (1920)	D	(22.0-90.0)	"
" "	"	" (1940)	D	(15.0-70.0)	"
" "	"	" (1960)	D	(65.0-75.0)	"
" "	"	" (1968)	D	(70.0-90.0)	"
" "	" (on ridges with 725-775 mm ppt)		D	(103.0-156.0)124.0	" (1969)
" "	" (lowlands with 500-590 mm ppt)		D	(57.0-100.0)93.0	"

Hypnum	*cupressiforme*	N.E. Sweden	D	(20.0-75.0) 49.0	Ruhling & Tyler (1969)
"	"	" (100 meters from roads in heavy industry area, Pb levels were very high in 127 sites)			Ruhling (1970)
"	"	Sweden (in Norrkoping, 50 m from road)	D	286.0 (max.)	Tyler (1969)
"	"	Swansea, Wales (upwind from urban industry, -76 to -10 km)	D	(60.0-80.0)	Goodman & Roberts (1971)
"	"	" (" " -10 to -5")	D	(150.0-250.0)	"
"	"	" (downwind from urban industry + 5 km)	D	(400.0-460.0)	"
"	"	" (" " +10 km)	D	(300.0-360.0)	"
"	"	" (" " +15 km)	D	(200.0-230.0)	"
"	"	" (" " +20 km)	D	180.0	"
"	"	" (" " +25 km)	D	100.0	"
"	"	(selected sites downwind from urban industry +1.5 to +3 km)		"moss desert"	"
"	"	"(" " + 8 km)	D	(260.0-349.0)	"
"	"	"(" " +25 km)	D	(79.0-103.0)	"
"	"	Swansea,Wales (transplanted moss upwind from urban industrial -15 km)	D	(65.0-96.0)	"
"	"	" (" " downwind +1 km)	D	(3,732-5,617.0)	"
"	"	" (" " " + 2 km)	D	248.0	"
"	"	" (" " " 4)	D	353.0	"
"	"	" (" " " 6)	D	171.0	"
"	"	" (" " " 7)	D	(150.0-350.0)	"
"	"	" (" " " 8)	D	197.0	"
"	"	" (4 week transplant)	D	11,611.0 (max.)	"

Hypnum cupressiforme	Swansea, Wales (low contamination site)		D	(67.0-116.0) 84.0±SE ± 5.0	Roberts & Goodman (1973)
Hypnum curvifolium	United States		A	700.0	Shacklette (1965)
Leucobryum glaucum	"		A	20,000.0	"
Marchantia polymorpha	"		A	25.0	"
Marsupella emarginata	Wales (lead mines)		D	4,000.0	McLean & Jones (1975)
Mnium affine	United States		A	20.0	Shacklette (1965)
Mnium cuspidatum	"		A	700.0	"
Philonotis fontana	Great Britain (mine spoil)	new growth	D	(237.0-432.0)	Shimwell & Laurie (1972)
" "	" "	old plant	D	(8750.0-10,015.0)	"
Pleurozium schreberi	S. Sweden (museum collections, 1870)		D	17.0	Ruhling & Tyler (1968)
" "	" ("	1890)	D	(20.0-40.0)	"
" "	" ("	1910)	D	50.0	"
" "	" ("	1930)	D	(45.0-85.0)	"
" "	" ("	1960)	D	(40.0-90.0)	"
" "	" ("	1968)	D	(50.0-95.0)	"
" "	C. Norway (isolated)1968		D	(7.0-12.0)	"
" "	Quebec (dist. from Cu smelter:)				LeBlanc et al. (1974)
" "	" "	SE 0.5-11 km	D	(230.0-1.160.0)695.0	"
" "	" "	14.9 km	D	(480.0-1,160.0)820.0	"
" "	" "	19.5 km	D	(130.0-1,140.0)403.3	"
" "	" "	25.4 km	D	(80.0-530.0)201.0	"
" "	" "	35.5 km	D	(15.0-110.0)62.5	"

Polytrichum commune	United States		A	1,000.0	Shacklette (1965)
Polytrichum juniperinum	"		A	(200.0-700.0)	"
Polytrichum ohioense	"		A	1,000.0	"
Scapania undulata	Wales (lead mines)		D	(3,875.9-14,825.0)	McLean & Jones (1975)
Sphagnum lindbergii	Lappland	(1965)	D	(5.0-12.0) 7.0	Ruhling & Tyler (1968)
Sphagnum magellanicum	Sweden	(1957)	D	(19.0-36.0)	"
" "	"	(1968)	D	(42.0-49.0)	"
" "	"	(surface living moss to 25 cm peat)	D	45.0	"
" "	"	(" " 35 cm)	D	26.0	"
" "	"	(" " 45 cm)	D	12.0	"
" "	"	(" " 55 cm)	D	8.0	"
" "	"	(" " 65 cm)	D	6.0	"
Sphagnum papillosum	"	(1957)	D	(19.0-36.0)	"
Sphagnum robustrum	Lappland	(1965)	D	(5.0-12.0)7.0	"
Sphagnum spp.	Sweden (peat bogs)		D	180.0	Tyler (1972)
Thelia asprella	United States		A	300.0	Shacklette (1965)
Thelia lescurii	"		A	300.0	"
Thuidium recognitum	"		A	500.0	"
Weisia microstoma	"		A	3,000.0	"
Weisia viridula	"		A	500.0	"

LEAD IN LICHENS (1)

Species	Locality	Tissue	Analysis (2) PPM	Authority
Cladonia alpestris	Poland		D (4.7-6.7) pCi/g Pb^{210}	Jaworowski (1966)
Cladonia furcata	"		D (0.6-2.2) pCi/g Pb^{210}	"
Cladonia mitis	"		D (0.6-3.1) pCi/g Pb^{210}	"
" "	Spitsbergen		D (6.3-13.4) pCi/g Pb^{210}	"
Cladonia rangiferina	"		D 2.3 pCi/g Pb^{210}	"
" "	Poland		D (0.8-3.2) pCi/g Pb^{210}	"
" "	Bulgaria		D 3.5 pCi/g Pb^{210}	"
Cladonia rangiformis	"		D 3.5 pCi/g Pb^{210}	"
" "	Poland		D (0.8-1.4) pCi/g Pb^{210}	"
Cladonia silvatica	"		D (1.5-4.5) pCi/g Pb^{210}	"
Cladoniaceae	Lapland		D (6.6-8.1) pCi/g Pb^{210}	"
"Lichens"	Finland		10.0 pCi/g Pb^{210}	"
"	Alaska		8.29 pCi/g Pb^{210}	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Lichens other than *Cladonia*	Alaska		Pb^{210} 61.2 pc/g	Jaworowski (1966)
Cornicularia muricata	Great Britain (mine spoil)	D	12,045	Shimwell & Laurie (1972)
Lecanora muralis	"		3,124.0	Seaward (1973)
Lecanora rubina	Colorado		1,000.0	Leroy & Koksoy (1962)
Parmelia baltimorensis	Washington,D.C. (1938)		106.0	Hale (1975)
" "	" (1958)		270.0	"
" "	" (1970)		950.0	"
" "	" (1970)		1,371.0	"
" "	Connecticut, 1971		198.0	"
Parmelia caperata	Japan (urban area)	D	33.6±SD 5.4	Saeki et al. (1977)
Parmelia clavulifera	" "	D	32.2±SD 13.8	"
Parmelia conspersa	Colorado (cretaceous sandstone)		(500.0-1,500.0)	Leroy & Koksoy (1962)
" "	" (jurassic sandstone)		1,000.0	"
" "	Japan (urban area)	D	50.2±SD 39.1	Saeki et al. (1977)
Parmelia tinctorum	" "	D	23.1±SD 7.0	"
Peltigera canina & *Peltigera rufescens*	Great Britain (downwind distance from steel smelters, meters:)			Seaward (1973)
" "	" 0-10		454.43	"
" "	" 100		138.55	"

Peltigera canina & *Peltigera rufescens*	Great Britain (distance downwind from steel smelters meters:)			Seaward (1973)
" "	" "	270	125.4	"
" "	" "	440	46.07	"
" "	" "	610	120.11	"
" "	" "	780	58.84	"
" "	" (control)		78.73	"
Stereocaulon nanodes	(is a metallophyte, its spread was attributed to exploitation of lead and zinc; it is increasing in towns.)			in Ferry et al. (1973)
Umbilicaria hyperborea	Colorado (on cretaceous sandstone)		(500.0-1,000.0)	Leroy & Koksoy (1962)
" "	" (on jurassic sandstone)		(30.0-500.0)	"
Xanthoria (*Caloplaca*) *elegans*	" (on cretaceous sandstone)		(15.0-30.0)	"
" " "	" (on jurassic sandstone)		(10.0-50.0)	"
"Lichens"	Finland (on siliceous rock)		(300.0-3,000.0)	in Ferry et al. (1973)
"	" (on lead-rich rocks)		(3,000.0-6,000.0)	"

LEAD IN FUNGI

Gem-studded puffball *Lycoperdon perlatum*	Connecticut (near highway)	unwashed	D	38.20	McCreight & Schroeder (1977)
" "	" "	washed	D	55.40	"
" "	" "	gleba	D	9.16	"
" "	" "	base	D	0.0	"

LEAD IN ALGAE (1)

Species	Locality	Tissue	Analysis PPM (2)	Authority
Brown alga, knotted wrack *Ascophyllum nodosum*	Norway		D (<3.0-5.0)	Haug et al. (1974)
" "	Great Britain		D (2.2-2.6)	Foster (1976)
" "	Scotland		W 1.0	Black & Mitchell (1952)
" "	"		D (4.0-6.0)	"
" "	Norway		D (0.7-62.0)	Stenner & Nickless (1974)
Red alga *Bossea orbigniana*	S. California		W 0.88	Chow et al. (1976)
" "	"		D 1.41	"
Red alga *Bossea sp.*	"		W 0.30	"
" "	"		D 0.53	"
Red alga *Botryoglossum farlowianum*	"		W 0.043	"
" "	"		D 0.30	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Red alga Callophyllis obtusifolia	S. California	W	0.17	Chow et al. (1976)
" "	"	D	1.17	"
Seaweed Chondria literalis	Puerto Rico	D	(18.0-30.0)	Lowman et al. (1966)
" "	"	W	(2.0-4.0)	"
Irish moss Chondrus crispus	Canada	D	8.0	Young & Langille (1958)
" "	Spain & Portugal	D	ND	Stenner & Nickless (1975)
Brown alga Chorda filum	Norway	D	(13.0-390.0)	" (1974)
" "	Spain & Portugal	D	3.0	" (1975)
Green alga Cladophora sp.	Illinois	D	(12.0-347.0)	Illinois (1972)
" "	Missouri (tailings pond)	D	11,300	Jennett & Wixson (1975)
" "	" (1 mi downstream)	D	3,500	"
" "	" 2 " "	D	200	"
" "	" 5 " "	D	100	"
" "	" 2 " "	D	4,700	Gale et al. (1973)
" "	" 2.5 " "	D	4,600	"
" "	" 3.8 " "	D	2,600	"
" "	" 6 " "	D	200	"
" "	Wales	W	(90.0-230.0)	Trollope & Evans (1976)

Green alga *Coccomyxa sp.*	Wales	algal bloom	W	3,230.0	Trollop & Evans (1976)
Green alga *Codium fragile*	Korea		D	2.4	Kim (1972)
Green alga *Codium tomentosum*	Israel		D	(1.9-5.6)	Roth & Hornung (1977)
Red alga *Corallina officinalis*	Norway		D	22.0	Stenner & Nickless (1974)
" "	Spain & Portugal		D	8.0	" (1975)
Red alga *Corallina virgata*	Israel		D	22.2	Roth & Hornung (1977)
Seaweed *Cymodecia sp.*	Puerto Rico		D	(32.0-38.0) 35.0	Lowman et al. (1966)
" "	"		W	(2.5-5.7)3.4	"
Seaweed *Cystophyllum sisymbrioides*	Korea		D	0.25	Kim (1972)
Seaweed *Delesseria sanguinea*	Spain & Portugal		D	10.0	Stenner & Nickless (1975)
Brown alga *Dictyopteria zonarioides*	S. California		W	0.085	Chow et al. (1976)
" "	"		D	0.33	"
Seaweed *Dictyota sp.*	Puerto Rico		D	21.0	Lowman et al. (1966)
" "	"		W	4.0	"
Seaweed *Ecklonia stolonifera*	Korea		D	(0.57-1.0)	Kim (1972)

Brown alga *Egregia laevigata*	S. California	W 0.14	Chow et al. (1976)
" "	"	D 0.57	"
Brown alga *Egregia menziesii*	"	W 0.094	"
" "	"	D 0.57	"
Brown alga *Egregia planifolia*	"	W 0.12	"
" "	"	D 0.73	"
Seaweed *Eisenia bicyclis*	Japan	D (7.0-16.0)	Fujinaga et al. (1962)
Green alga *Enteromorpha linza*	Korea	D (0.35-1.10)	Kim (1972)
Green alga *Enteromorpha prolifera*	"	D (0.20-0.65)	"
Green alga *Enteromorpha sp.*	Norway	D (6.0-1200.0)	Stenner & Nickless (1974)
Brown alga *Fucus ceranoides*	"	D (19.0-38.0)	"
Brown alga *Fucus distichus*	W. Greenland	W (1.0-200.0)	Bollingberg (1975)
Brown alga *Fucus serratus*	Scotland	W 0.78	Black & Mitchell (1952)
" "	"	D (4.0-21.0)	"
" "	Norway	D (4.0-54.0)	Stenner & Nickless (1974)
Brown alga *Fucus spp.*	Great Britain	D (1.3-11.3)	Preston et al. (1972)

Brown alga *Fucus spiralis*	Scotland		W	0.92	Black & Mitchell (1974)
" "	"		D	5.0	"
" "	Norway		D	11.0	Stenner & Nickless (1974)
Brown alga *Fucus vesiculosus*	"		W	1.6	"
" "	"		D	(2.0-7.0)	"
" "	Great Britain	stipe	W	(7.0-20.0)	Bryan (1971)
" "	"	old thallus	W	(7.0-15.0)	"
" "	"	new thallus	W	(1.0-10.0)	"
" "	Norway		D	(3.0-202.0)	Stenner & Nickless (1974)
" "	North Sea			4.5	Dutton et al. (1973)
" "	Great Britain Severn estuary		D	(ND-8.5)	Butterworth et al. (1972)
" "	" Bristol Channel		D	(ND-19.0)	Nickless et al. (1972)
" "	W. Greenland		W	(1.0-200.0)	Bollingberg (1975)
" "	Great Britain		D	(6.0-31.0)	Bryan & Hummerstone (1973)
" "	"		D	(2.3-3.2)	Foster (1976)
Red alga *Gigartina binghamiana*	S. California		W	0.11	Chow et al. (1976)
" "	"		D	0.54	"

Red alga *Gigartina harviana*	S. California		S 0.76	Chow et al. (1976)
" "	"		D 0.44	"
Red alga *Gigartina sp.*	"		W 0.021	"
" "	"		D 0.09	"
Red alga *Gigartina stellata*	Norway		D (6.0-32.0)	Stenner & Nickless (1974)
Seaweed *Gloiopeltis furcata*	Korea		D (<0.01-1.25)	Kim (1972)
Brown alga *Halidrys diota*	"		W 0.13	Chow et al. (1976)
" "	"		D 0.71	"
Seaweed *Ishige sinicola*	"		D 1.0	Kim (1972)
Brown alga *Laminaria clousteni*		sterile frond	D (1.0-13.0)	Black & Mitchell (1952)
" "		sporing frond	D 26.0	"
Brown alga *Laminaria digitata*	Scotland	frond	W (0.69-0.97)	"
" "	"	stipe	W (0.78-2.0)	"
" "	"	frond	D (2.0-20.0)	"
" "	"	stipe	D (6.0-16.0)	"
" "	Norway		D (8.0-37.0)	Stenner & Nickless (1974)
Brown alga *Laminaria farlowii*	S. California		W (0.12-0.13)	Chow et al. (1976)
" "	"		D (0.45-0.59)	"

Brown alga *Laminaria japonica*	Korea		D	(0.20-1.3)	Kim (1972)
Brown alga *Laminaria reliosa*	"		D	(0.35-1.3)	"
Brown alga, kelp *Macrocystis pyrifera*	S. California		W	(0.024-0.192)	Chow et al. (1976)
" "	"		D	(0.20-0.42)	"
" "	"		A	(4.4-8.1) 6.5±1.6	Boothe & Knauer (1972)
" "	"	(calc.)	D	(2.9-5.4)4.3	"
Green alga *Microspora sp.*	Wales	algal bloom	W	2,160.0	Trollope & Evans (1976)
Green alga *Mougeotia sp.*	"	"	W	6,190.0	"
Green alga *Oedogonium sp.*	"	"	W	60.0	"
Blue-green alga *Oscillatoria sp.*	Nova Scotia		D	(25.0-568.0)	Ray & White (1976)
" "	Wales	algal bloom	W	580.0	Trollope & Evans (1976)
Elk kelp *Pelagophycus porra*	S. California	bladder	W	(0.037-2.0)	Folsom et al. (1972)
Brown alga, channel wrack *Pelvetia canaliculata*	Scotland		W	3.0	Black & Mitchell (1952)
" "	"		D	(4.0-13.0)	"
" "	Norway		D	(2.0-7.0)	Stenner & Nickless (1974)
Red alga, laverweed *Porphyra pseudolinearis*	Korea		D	(0.50-0.85)	Kim (1972)

Red alga, laverweed *Porphyra sp.*	S. California		W	(0.11-0.16)	Chow et al. (1976)
" "	"		D	(0.92-1.11)	"
Red alga, laverweed *Porphyra umbilicalis*	North Sea			2.8	Dutton et al. (1973)
" "	Irish Sea		D	(0.8-10.5)	Preston et al. (1972)
Red alga, laverweed *Porphyra tenera*	Korea		D	(0.50-1.31)	Kim (1972)
Red alga, laverweed *Porphyra yezoensis*	"		D	0.1	"
Red alga *Ptilota densa*	S. California		W	0.15	Chow et al. (1976)
" "	"		D	1.41	"
Sargassum weed *Sargassum fulvellum*	Korea		D	(0.8-2.2)1.4	Kim & Won (1974)
" "	"		D	(0.75-1.22)	Kim (1972)
Sargassum weed *Sargassum horneri*	Korea		D	0.58	"
Sargassum weed *Sargassum sp.*	Texas		D	(3.9-6.5)4.7	Horowitz & Presley (1977)
" "	Puerto Rico		D	14.0	Lowman et al. (1967)
" "	"		W	2.0	"
Green alga *Spirogira sp.*	Wales	algal bloom	W	(40.0-400.0)	Trollope & Evans (1976)
Xanthophyta *Tribonema sp.*	"	"	W	(3,680-14,190)	"
Green alga *Ulothrix sp.*	"	"	W	2.38	"

Green alga *Ulva lactuca*	Norway		D	(3.0-18.0)	Stenner & Nickless (1974)
" "	Spain & Portugal		D	(10.0-18.0)	"
" "	Great Britain		D	(16.0-66.0)	Boyden (1975)
Green alga *Ulva sp.*	S. California		W	(0.050-0.19)	Chow et al. (1976)
" "	"		D	(0.52-1.94)	"
Seaweed *Undaria pinnatifida*	Korea	blade	D	(1.1-5.0) 2.55	Kim & Won (1974)
" "	"	sporophyll	D	(0.8-3.3)1.8	"
" "	"		D	(0.38-1.0)	Kim (1972)
Green alga *Zygnema sp.*	Wales	algal bloom	W	2.6	Trollope & Evans (1976)

MERCURY IN MARINE MAMMALS(1)

Species	Locality	Tissue	Analysis(2) PPM	Authority
Sei whale Balaenoptera borealis	Antarctic 40-43°S; 153-156°E	dorsal muscle	W? (0.02-0.07)	Nagakura et al. (1974)
" "	" "	tail muscle	W? (0.01-0.04)	"
Fin whale Balaenoptera physalis	Antarctic 42-47°S; 60-100°E	dorsal muscle	W? (0.01-0.03)	"
" "	" "	tail muscle	W? (0.01-0.02)	"
" "	Atlantic	muscle	W 0.06	Bligh (1971)
Northern fur seal Callorhinus ursinus	St. Paul Isl. Alaska	hair, cow	W 4.87	Kim et al. (1974)
" "	" " "	blood, cow	W 0.0995	"
" "	" " "	milk, cow	W 0.015	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (S.D.), standard error (S.E.), median and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Northern fur seal *Callorhinus ursinus*	St. Paul Isl. Alaska	hair, pup	W	3.68	Kim et al. (1974)
" "	" " "	blood, pup	W	0.0195	"
" "	" " "	hair, 2 mo.	W	5.36	"
" "	" " "	blood, 2 mo.	W	0.0686	"
" "	Washington	liver	W	(0.4-172.0)	Anas (1974)
" "	"	kidney	W	(0.2-1.6)	"
" "	"	muscle	W	(0.2-0.4)	"
" "	Pribilof Is.	liver	W	(0.1-19.0)	"
" "	" "	muscle	W	(0.1-0.4)	"
" "	Washington	fetus, liver	W	(0.4-3.7)	"
" "	"	fetus, kidney	W	(0.2-0.7)	"
" "	Pribilof Is.	liver, pup	W	(0.05-0.35) 0.20	Anas (1973)
" "	" "	liver, male 2-3 yr.	W	(3.0-19.0)10.8	"
" "	Washington	liver, female, 5-19 yr.	W	(19.0-172.0) 67.2	"
" "	Pribilof Is.	muscle, pup	W	(0.05-0.11)0.06	"
" "	" "	muscle, male	W	(0.12-0.40) 0.25	"
" "	Washington	muscle, female	W	(0.18-0.37) 0.26	"
" "	Pribilof Is.	brain, female	W	0.22	"

Hood seal *Cystophora cristata*	Magdalen Is. Quebec	male, blubber	W	0.08	Sergeant & Armstrong (1973)
" "	" " "	male, muscle	W	(0.62- 1.93)1.21	"
" "	" " "	male, liver	W	(27.2-45.2)37.2	"
" "	" " "	male, hair	W	(2.64-7.63)5.06	"
" "	" " "		levels of Hg increased with age		"
Common dolphin *Delphinus delphis*	New Zealand	liver	W	(35.0-72.0)	Koeman et al. (1972)
" "	San Diego, California	muscle	W	(0.52-1.26)	Kishore & Guinn (1972)
" "	" "	"	D	(1.45-4.71)	"
Beluga whale *Delphinapterus leucas*	Hudson Bay	liver	W	8.87	Bligh (1971)
" "	" "	muscle	W	0.97	"
" "	" "		W	0.18	"
" "	" "	kidney	W	2.44	"
" "	" "	heart	W	1.35	"
" "	" "	lung	W	0.64	"
" "	" "	intestine	W	0.61	"
" "	" "		W	0.53	Bligh & Armstrong (1971) in Smith & Armstrong (1975)
Bearded seal *Erignathus barbatus*	Quebec	male, claw	W	(0.41-2.3) 1.04	Freeman & Horne (1974)

Bearded seal *Erignathus barbatus*	Quebec	female, claw	W	(0.057-2.2) 1.2	Freeman & Horne (1974)
" "	Victoria Is. NWT	liver	W	420.0 (max.)	Smith & Armstrong (1975)
" "	" "	"	W	143.0±SD 170.0	"
" "	" "	methyl Hg liver	W	0.30±SD 0.25	"
" "	" "	muscle	W	0.53±SD 0.35	"
Short-finned whale *Globicephala macrorhynca*	St. Lucia, Lesser Antilles	"	W	(2.76-5.36)	Gaskin et al. (1974)
" "	" "	blubber	W	ND	"
" "	" "	liver	W	(19.2-155.0)	"
" "	" "	kidney	W	(6.0-14.0)	"
Pilot whale, Pothead *Globicephala melaena*		muscle		1.74	Bligh (1971)
Pilot whale *Globicephala scammoni*	San Clemente Is. California (six stranded whales)	liver	W	(7.4-25.9)	Anonymous (1971c)
" "		liver	W	24.0	in Anas (1974)
Canadian gray seal *Halichoerus grypus*	Canada	liver		387.0	Uthe (1972)
" "	Nova Scotia	fur	W	(1.4-16.0) 7.0	Freeman & Horne (1974)
" "	" "	male, claw	W	(4.4-9.8)7.7	"

Canadian gray seal *Halichoerus grypus*	Nova Scotia	female, claw	W	(3.2-8.6)6.7	Freeman & Horne (1974)
" "	" "	liver	W	(2.8-30.0)	"
" "	" "	kidney	W	(1.5-5.7)	"
" "	" "	muscle	W	(0.58-1.6)	"
" "	" "	blubber	W	(0.36-0.11)	"
" "	" "	mother, claw	W	8.6	"
" "	" "	fetus, claw	W	2.9	"
" "	" "	mother, liver	W	26.0	"
" "	" "	fetus, liver	W	0.50	"
" "	" "	mother, kidney	W	5.0	"
" "	" "	fetus, kidney	W	0.37	"
" "	River Tay, Scotland	female, liver	W	66.074	Jones et al. (1972)
" "	" "	"	D	224.85	"
" "	" "	female, kidney	W	4.83	"
" "	" "	"	D	23.51	"
" "	" "	female, spleen	W	0.7	"
" "	" "	"	D	2.7	"
" "	" "	female, blubber	W	2.7	"
" "	" "	"	D	3.1	"

Canadian gray seal *Halichoerus grypus*	River Tay, Scotland	female, skin & hair	W	4.37	Jones et al. (1972)
" "	" "	"	D	8.99	"
" "	Farne Islands	male	D	31.0	Hamilton (1976)
" "	"	female	D	<9.0	"
" "	"	pup	D	<9.0	"
" "	Netherlands	liver		435.0 (max.)	Koeman et al. (1973)
" "	Sable Isl. E. Canada	blubber	W	(0.02-0.16) 0.08	Sergeant & Armstrong (1973)
" "	" "	muscle	W	(0.38-2.35)1.13	"
" "	" "	liver	W	(0.58-387.0) 88.2	"
" "	" "	kidney	W	3.04	"
Dusky dolphin *Lagenorhynchus obscurus*	New Zealand	liver	W	(35.0-72.0)	Koeman et al. (1972)
Monodon monoceros	E. Canada arctic	"	W	0.64	in Smith & Armstrong (1975)
Harp seal *Phoca groenlandica* (=Pagophila groelandica)	E. Canada Gulf of St. Lawrence	female, fur	W	(2.1-3.8) 3.2±SE 0.25	Freeman & Horne (1974)
" "	" " "	female, claw	W	(2.2-5.4)3.7 ±SE 0.41	"
" "	" " "	female, liver	W	(1.9-9.4)4.6 ±SE 0.89	"
" "	" " "	female, muscle	W	(0.28-0.7)0.46 ±SE 0.044	"

Harp seal *Phoca groenlandica* (=Pagophila groenlandica)						Freeman & Horne (1974)
		E. Canada Gulf of St. Lawrence	female, heart	W	(0.13-0.43) 0.28 ±SE 0.031	
"	"	" "	female, blubber	W	(0.063-0.23)0.14 ±SE 0.0	"
"	"	" "	pup, fur	W	(0.63-3.6)1.7	"
"	"	" "	pup, claw	W	(0.8-3.6)1.8	"
"	"	" "	pup, liver	W	(0.18-0.83)0.46	"
"	"	" "	pup, kidney	W	(0.25-0.51) 0.35	"
"	"	" "	pup, muscle	W	(0.14-0.29)0.22	"
"	"	" "	pup, heart	W	(0.11-0.23)0.17	"
"	"	Escoumins, Quebec	blubber	W	(0.02-0.05) 0.03	Sergeant & Armstrong (1973)
"	"	"	muscle	W	(0.16-0.50) 0.38	"
"	"	"	liver	W	(0.84-10.0)3.63	"
"	"	E. Canada	female, brain	W	(0.069-12.5)	Jones et al. (1976)
"	"	"	female, liver	W	(6.4-7.8)	"
"	"	"	female, blubber	W	(0.238-0.48)	"
"	"	"	female, muscle	W	(0.23-0.314)	"
"	"	"	pup, brain	W	(0.069-0.39)	"
"	"	"	pup, liver	W	(0.116-0.21)	"
"	"	"	pup, muscle	W	(0.071-0.116)	"

Ringed seal Phoca hispida botnica	Gulf of Finland	adult, liver	(2.5-27.6) 11.8	Henriksson et al. (1969)
" " "	"	adult, muscle	(0.1-2.3)0.9	"
" " "	"	liver	11.8	"
" " "	"	"	27.6 (max.)	"
" " "	"	adult, kidney	(1.1-6.4)3.2	"
" " "	Finland	muscle	(<0.1-196.9)	"
" " "	"	liver	(1.3-209.8)	"
" " "	"	kidney	(1.1-52.6)	"
Ringed seal Phoca hispida hispida	Quebec	claw	W (0.77-4.2)	Freeman & Horne (1974)
" " "	Victoria Isl. NWT	liver	W 184.0 (max.)	Smith & Armstrong (1975)
" " "	" "	muscle	W 2.12 (max.)	"
" " "	" "	liver	W 27.5±SD 30.1	"
" " "	" "	muscle	W 0.72±SD 0.33	"
" " "	Repulse Bay	liver	W 7.07 (max.)	"
" " "	" "	"	W 3.43 (mean)	"
" " "	Cornwallis Isl.	"	W 5.72 (max.)	"
" " "	" "	"	W 2.93 (mean)	"
Ringed seal Phoca hispida saimensis	Lake Saimen, Finland	muscle	197.0	Tillander et al. (1970)
" " "	"	liver	210.0	"
" " "		liver, young	(130.0-210.0)	Helminen et al. (1968)

Ringed seal __Phoca hispida saimensis__		kidney (young)		(74.0-197.0)	Helminen et al. (1968)
" " "	Lake Saimen	liver (young)		(1.3-23.6)6.8	Henriksson et al. (1969)
" " "	" "	muscle (young)		(0.2-3.9)1.6	"
" " "	" "	kidney (young)		(2.1-5.7)3.5	"
" " "	" "	liver (adult)		(74.0-209.8) 137.8	"
" " "	" "	muscle (adult)		(1.9-196.9)62.4	"
" " "	" "	kidney (adult)		(40.0-52.6)46.3	"
Harbor seal __Phoca vitulina__	Netherlands	(found dead) liver	W	(225.0-765.0)	Koeman et al. (1971)
" "	"	liver	W	183.0	Koeman et al. (1973)
" "	"	(found dead) brain	W	(9.9-31.0)	Koeman et al. (1971)
" "	West Scotland	liver	W	(1.05-1.13)	Roberts et al. (1976)
" "	" "	kidney	W	(0.4-3.5)	"
" "	" "	spleen	W	(0.1-3.1)	"
" "	" "	brain	W	0.2±SD 0.1	"
" "	" "	muscle	W	1.40±SD 0.9	"
" "	" "	claw	W	5.76±SD 7.27	"
" "	" "	rib	W	0.17±SD 0.22	"
" "	East Anglia	liver	W	(1.5-106.0)	"
" "	" "	kidney	W	(0.2-4.7)	"

Harbor seal *Phoca vitulina*	East Anglia	spleen	W	(0.1-7.6)	Roberts et al. (1976)
" "	Wadden Sea, Germany	brain	W	(10.0-15.0)	Westoo (1967)
" "	W. Scotland	male, liver	D	1,547.0	Hamilton (1976)
" "	" "	female, liver	D	1,424.0	"
" "	" "	pup, liver	D	579.0	"
" "	Nova Scotia	fur	W	1.8	Freeman & Horne (1974)
" "	" "	claw	W	1.8	"
" "	" "	liver	W	0.99	"
" "	" "	kidney	W	0.67	"
" "	" "	muscle	W	0.55	"
" "	" "	heart	W	0.23	"
" "	" "	brain	W	0.17	"
" "	" "	blubber	W	0.076	"
" "	" "	pancreas	W	0.27	"
" "	Maine	liver	W	(0.52-7.9) 3.79	Gaskin et al. (1973)
" "	"	muscle	W	(0.21-1.54)	"
" "	"	blubber	W	(0.027-0.087)	"
" "	"	brain	W	(0.05-0.28)	"
" "	New Brunswick	liver	W	(1.72-50.9) 17.2	Gaskin et al. (1973)
" "	" "	muscle	W	(0.16-0.59)	"
" "	" "	blubber	W	(0.036-0.106)	"

Harbor seal *Phoca vitulina*	New Brunswick	brain	W	(0.146-0.76)	Gaskin et al. (1973)
" "	California			(0.23-3.1) 1.139	Mitre Corp. (1975)
" "	Sable Isl. E. Canada	blubber	W	(0.02-0.09) 0.04	Sergeant & Armstrong (1973)
" "	" "	muscle	W	(0.31-0.75) 0.71	"
" "	" "	liver	W	(2.14-21.7) 8.86	"
" "	" "	hair	W	(0.88-3.80) 1.56	"
Harbor seal *Phoca vitulina richardi*	California	liver	W	(81.0-700.0) 269.0	Anas (1974)
" " "	Oregon	"	W	(0.3-68.0)	"
" " "	Washington	"	W	(1.3-60.0)	"
" " "	Pribilof Isl.	"	W	(0.6-8.9)	"
Harbor porpoise *Phocoena phocoena*	North Sea	brain	W	(0.09-2.0)	Koeman et al. (1972)
" "	" "	liver	W	(5.7-192.0)	"
" "	Bay of Fundy	"	W	(2.0-50.0)	Gaskin et al. (1972)
Sperm whale *Physeter catodon*	N. Pacific 37°N, 142°E	dorsal muscle		(1.08-1.56) 1.31	Nagakura et al. (1974)
" "	" " "	tail muscle		(1.21-1.67)1.44	"
"" "	Antarctic 41-43°S, 120-131°E	dorsal muscle		(0.93-1.48) 1.33	"

Sperm whale *Physeter catodon*	Antarctic 41-43°S, 120-131°E	tail muscle		(0.92-1.36) 1.21	Nagakura et al. (1974)
Humpbacked dolphin *Sotalia guianensis*	Surinam	liver	W	(0.37-11.0)	Koeman et al. (1972)
Long-snouted dolphin *Stenella longirostris*	St. Lucia, Lesser Antilles	muscle	W	(0.87-1.33)	Gaskin et al. (1974)
" "	" "	blubber	W	ND	"
" "	" "	liver	W	(6.0-13.0)	"
" "	" "	kidney	W	(2.28-2.68)	"
Bottle-nosed dolphin *Tursiops truncatus*	(in dolphinarium) fed North Sea fish	liver	W	(2.2-62.0)	Koeman et al. (1972)
" "	N.W. Atlantic	muscle	D	(3.27-4.72)	Windom (1972)
California sea lion *Zalophus californianus*	Oregon	fat	W	(0.055-0.326) 0.165±SD 0.089	Buhler & Mate (1973)
" "	"	brain	W	(0.326-1.14) 0.718±SD 0.276	"
" "	"	hair	W	(11.5-19.7) 15.6±SD 4.1	"
" "	"	muscle	W	(0.795-2.68) 1.41±SD 0.52	"
" "	"	liver	W	(2.82-249.0) 137.0±SD 73.0	"
" "	"	kidney	W	(1.98-6.06) 3.70±SD 1.44	"
" "	"	heart	W	(0.457-0.85) 0.70±SD 0.14	"
" "	"	pancreas	W	(0.463-10.5) 4.02±SD 3.64	"

California sea lion Zalophus californianus	Oregon	liver	W	225.0	in Anas (1974)
" "	California	mother, liver	D	(73.0-1026.0)	Martin et al.(1976)
" "	"	mother, kidney	D	(4.13-43.15)	"
" "	"	pup, liver	D	(0.91-15.95)	"
" "	"	pup, kidney	D	(0.56-6.69)	"
Humpback whale		muscle	W	0.24	Bligh (1971)

MERCURY IN MAMMALS (1)

Species	Locality	Tissue	Analysis (2) PPM	Authority
Moose *Alces alces*	Sweden	muscle	W 0.01	Johnels & Westermark (1969)
Arctic fox *Alopex lagopus*	Canada NWT	liver	W 0.76±SD 1.12	Smith & Armstrong (1975)
" "	" "	muscle	W 0.31±SD 0.54	"
Pronghorn antelope *Antilocapra americana*	Idaho	doe, hair	0.01	Huckabee et al. (1972)
" "	"	5 wk. pre-term fetus (from above) hair	0.3	"
" "	"		(0.01-2.0)0.8	"
" "	Idaho & Wyoming	hair	Hg found only in herd near a chemical plant	"
Mouse *Apodemus flavicollis*	Sweden	muscle	W (0.026-0.036)	Ljundggren et al. (1971)

(1)
Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2)
W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Mouse *Apodemus flavicollis*	Sweden	kidney	W	(0.1-0.11)	Ljundggren et al. (1971)
" "	"	liver	W	(0.04-0.042)	"
Woodmouse *Apodemus sylvaticus*	Great Britain (in chlor-alkali area)	brain	W	(0.09-1.88) 0.55±SE 0.28	Bull et al. (1977)
" "	" " "	hair	W	(0.50-1.36) 0.78±SE 0.12	"
" "	" " "	kidney	W	(0.17-1.29) 0.52±SE 0.16	"
" "	" " "	liver	W	(0.09-0.53) 0.23±SE 0.07	"
" "	" " "	muscle	W	(0.06-4.59) 0.98±SE 0.73	"
" "	Great Britain (control)	brain	W	(0.03-0.13) 0.06±SE 0.01	"
" "	" " "	hair	W	(0.05-0.19) 0.12±SE 0.01	"
" "	" " "	kidney	W	(0.05-0.27) 0.12±SE 0.02	"
" "	" " "	liver	W	(0.01-0.07) 0.04±SE 0.01	"
" "	" " "	muscle	W	(0.02-0.13) 0.07±SE 0.01	"
" "	Great Britain (field with Hg-treated wheat seed)	liver	W	(ND-7.09)	Jefferies & French (1976)
" "	" " "	kidney	W	(ND-11.67)	"
" "	" " "	whole body	W	(0.01-2.93)	"

Vole rat Arvicola terrestris	Sweden	liver	W	(0.003-0.5)	Lihnell & Stenmark (1967)
Short-tailed shrew Blarina brevicauda	Ohio	leg	W	(0.017-0.137)	Curnow et al. (1977)
" "	"	liver	W	(0.053-0.102)	"
Cow Bos bovis	Sweden	muscle		(0.002-0.074) 0.012	Smart (1968)
" "	"	liver		(0.003-0.023)	"
" "	"	"	W	(0.003-0.046)	Westoo (1969)
" "	Denmark	"	W	(0.003-0.007) 0.005	"
" "	Sweden	muscle	W	(0.002-0.074) 0.012	"
" "	Denmark	"	W	(0.002-0.004) 0.004	"
" "	Sweden	liver	W	0.006	Westoo (1968)
" "	"	muscle	W	0.008	Johnels & Westermark (1969)
" "	United States	liver	D	(0.0118-0.0137)0.0145	Rook et al. (1972)
Domestic dog Canis familiaris	NWT, Canada	liver	W	11.4±SD 8.8	Smith & Armstrong (1975)
" "	" "	muscle	W	0.79±SD 0.16	"
" "	Kentucky	dental calculus	D	200.0	Nadkarni & Ehman (1970)

Coyote Canis latrans	Wyoming	hair		(0.008-2.8)0.57	Huckabee et al. (1972)
" "	"			85% had over 0.008 ppm in hair	"
Wolf Canis lupus	NWT, Canada	liver	W	0.24±SD 0.15	Smith & Armstrong (1975)
" "	" "	muscle	W	0.051±SD 0.027	"
Roe deer Capreolus capreolus	Sweden	"	W	(0.006-0.055)	Johnels & Westermark (1969)
" "	"	liver & kidney		<1.0	Borg et al. (1969)
" "	"	muscle	W	0.055	Ljundggren et al. (1971)
" "	"	kidney	W	0.14	"
" "	"	liver	W	0.034	"
Guinea pig Cavia porcellus	Maryland	"	D	0.44	Furr et al. (1976)
" "	"	kidney	D	0.10	"
" "	"	muscle	D	0.64	"
" "	"	adrenal	D	0.19	"
" "	"	spleen	D	0.11	"
Elk, wapiti Cervus canadensis	Idaho	hair		(0.008-0.5) 0.095	Huckabee et al. (1972)
" "				40% had over 0.008 ppm	"

Red backed vole *Clethrionomys gapperi*	Wyoming	hair		<0.008	Huckabee et al. (1973)
Bank vole *Clethrionomys glareolus*	Sweden	liver	W	(0.011-0.9)	Lihnell & Stenmark (1967)
" "	Great Britain (near chlor-alkali plant)	brain	W	(0.07-0.20) 0.13±SE 0.02	Bull et al. (1977)
" "	" " "	hair	W	(0.40-2.15) 0.91±SE 0.24	"
" "	" " "	kidney	W	(0.14-0.75) 0.35±SE 0.10	"
" "	" " "	liver	W	(0.06-0.34) 0.15±SE 0.04	"
" "	" " "	muscle	W	(0.08-0.66) 0.28±SE 0.08	"
" "	(control)	brain	W	(0.03-0.08) 0.05±SE 0.01	"
" "	"	hair	W	(0.12-0.35) 0.18±SE 0.04	"
" "	"	kidney	W	(0.02-0.17) 0.08±SE 0.02	"
" "	"	liver	W	(0.03-0.13) 0.06±SE 0.02	"
" "	"	muscle	W	(0.04-0.11) 0.06±SE 0.01	"
" "	Great Britain	liver	W	ND	Jefferies & French (1976)
" "	" "	kidney	W	ND	"
" "	" "	whole body	W	0.02	"
" "	" "	" "	D	0.07	"

Common opossum *Didelphis virginiana*	Georgia	hair	D	(2.3-17.3)10.7	Cumbie (1975b)
" "	Georgia (lower coastal plain)	hair	D	(0.39-23.4) 2.39	Cumbie & Jenkins (1974)
" "	Georgia (upper coastal plain)	hair	D	(0.16-0.38) 0.28	"
Horse *Equus caballus*	Sweden		W	0.007	Johnels & Westermark (1969)
Porcupine *Erethizon dorsatum*	Wyoming	hair		0.2	Huckabee et al. (1973)
" "	"	quill		0.02	"
Chipmunk *Eutamias sp.*	"	hair		0.3	"
Cat *Felis domesticus*	Japan, Minamata	natural		(39.8-52.0)	Kitamura (1968)
		experimental		(21.5-70.0)	
" "	Yatsushiro City, along sea			(46.6-51.0)	"
" "	Japan, Shiranui-cho along sea	hair		9.8	"
" "	Japan, Amakusa-seto along sea	hair		(117.0-117.5)	"
" "	Japan, Ushifuka along sea	hair		(17.6-33.1)	"
" "	Minamata	control, brain	W	(0.0-0.1)	Takeuchi et al. (1962)

Cat *Felis domesticus*	Minamata	control, kidney	W	(0.1-0.8)	Takeuchi et al. (1962)
" "	"	control, liver	W	(0.6-6.6)	"
" "	"	afflicted, brain	W	(8.1-18.6)	"
" "	"	afflicted, kidney	W	(12.2-36.1)	"
" "	"	afflicted, liver	W	(37.0-145.5)	"
" "	N.W. Ontario (ate fish from below chlor-alkali plant)	brain	W	(6.9-16.4)	Takeuchi et al. (1977)
" "	" " "	pancreas	W	(4.3-4.9)	"
" "	" " "	kidney	W	(10.8-13.4)	"
" "	" " "	liver	W	(14.2-67.1)	"
" "	" " "	fur	W	(121.0-392.0)	"
Snowshoe rabbit *Lepus americanus*	Wisconsin	liver	W	0.04	Kleinert & Degurse (1972)
" "	"	muscle	W	trace	"
Brown hare *Lepus europaeus*	Sweden	liver & kidney	W	<0.4	Borg et al. (1969)
" "	"	muscle	W	0.011	Johnels & Westermark (1969)
Varying hare *Lepus timidus*	"	liver & kidney	W	<0.4	Borg et al. (1969)
American otter *Lutra canadensis*	Georgia Piedmont	hair	D	(9.3-26.8) 15.9	Cumbie (1975a)

Otter *Lutra canadensis*	Georgia, lower coastal plain	hair	D	(15.8-67.9)37.6	Cumbie (1975a)
" "	Georgia, Piedmont	"	D	(0.39-3.31) 1.3	Cumbie & Jenkins (1974)
Bobcat *Lynx rufus*	Georgia, upper coastal plain	hair	D	(1.14-24.0) 13.05	Cumbie (1975b)
" "	Georgia, lower coastal plain	"	D	(0.22-2.31) 0.93	"
Rhesus monkey *Macaca mulatta* & *Macaca iris*	(fed methylmercury, control 0)			0.3	Ikeda & Tobe(1972)
" "	(fed methylmercury, 0.1 mg/kg/day)			4.8	"
" "	(fed methylmercury, 0.1 mg/kg/day)			44.0	"
" "	(fed methylmercury, 0.3 mg/kg/day)			202.0	"
Marten *Martes martes*	Sweden	liver	W	30.0 (max.)	Borg et al. (1969)
" "	"	"		(0.5-11.0)	"
Field vole *Microtus agrostis*	"	"	W	(0.003-2.1)	Lihnell & Stenmark (1967)
Vole *Microtus longicaudus*	Idaho	hair		0.03	Huckabee et al. (1973)
Mountain vole *Microtus montanus*	Wyoming (non-Hg area)	"		<0.008	"

Mountain vole *Microtus montanus*	Wyoming Hg-bearing area	hair		(<0.008-0.07)	Huckabee et al. (1973)
Meadow mouse *Microtus pennsylvanicus*	"				
	Non-Hg bearing area	"		<0.008	"
Root vole *Microtus ratticeps*	Sweden	liver	W	(0.003-0.009)	Lihnell & Stenmark (1967)
Richardsons vole *Microtus richardsoni*	Wyoming Hg-bearing area	hair		0.09	Huckabee et al. (1973)
House mouse *Mus musculus*	Sweden	liver	W	(0.04-10.2)	Lihnell & Stenmark (1967)
" "	Kentucky	skin	D	0.25	Nadkarni& Ehman (1970)
" "	"	brain	D	0.06	"
European mink *Mustela lutreola*	Sweden	liver		63 of 64 <2.0	Borg (1969)
" "	"	"		20 of 64 >10.0	"
Weasel *Mustela nivalis*	"	"	W	<0.2	Borg et al. (1969)
Polecat *Mustela putorius*	"	"	W	30.0 (max.)	"
" "	"	"	W	(0.5-11.0)	"
American mink *Mustela vison*	(normal diet--155 days)	"	W	0.28±0.06	Auerlich et al. (1974)
" "	" " "	kidney	W	0.68±0.14	"
" "	" " "	muscle	W	0.05±0.03	"

American mink *Mustela vison*	(normal diet-- 155 days)	spleen	W	0.24±0.22	Auerlich et al. (1974)
" "	" " "	brain	W	0.22±0.14	"
" "	(fed methylmercury in diet 32 days)	liver	W	55.6±4.11	"
" "	" " "	kidney	W	37.7±4.19	"
" "	" " "	muscle	W	25.2±4.93	"
" "	" " "	spleen	W	24.8±2.02	"
" "	" " "	brain	W	19.9±4.55	"
" "	(fed HgCl in diet 135 days)	liver	W	3.16	"
" "	" " "	kidney	W	32.8	"
" "	" " "	muscle	W	0.12	"
" "	" " "	spleen	W	0.35	"
" "	" " "	brain	W	0.24	"
" "	Michigan (control-- no Hg)		W	1.13±0.08	"
" "	Michigan (fed 5 ppm Methyl-Hg 1 mo. (lethal)		W	1.22±0.12	"
" "	(fed 10 ppm HgCl 5 mo. (no effect)		W	1.23	"
" "	Georgia, Piedmont			(2.3-17.3) 10.7	Cumbie (1975a)
" "	Georgia, lower coastal plain			(5.9-15.4) 10.7	"
" "	Canada (fed Hg-contaminated fish)	liver	W	(8.28-56.4)	Sergeant & Armstrong (1973)

American mink *Mustela vison*	Canada (fed Hg-contaminated fish)	muscle	W	(4.46-45.0)	Sergeant & Armstrong (1973)
Watershrew *Neomys fodiens*	Sweden	liver	W	1.6	Lihnell & Stenmark (1967)
Mule deer *Odocoileus hemionus*	Idaho	hair		<0.008	Huckabee et al. (1972)
White-tailed deer *Odocoileus virginianus*	Florida	hair	D	(0.13-0.4)	Cumbie & Jenkins (1974)
" "	Georgia, Piedmont	"	D	(ND-0.59)	Cumbie (1975b)
" "	Georgia, lower coastal plain	"	D	(ND-0.21)	Cumbie & Jenkins (1974)
" "	Georgia, upper coastal plain	"	D	(0.24-0.98)0.55	"
" "	Wisconsin	liver	W	(0.01-0.02)	Kleinert & Degurse (1972)
" "	"	muscle	W	0.01	"
Muskrat *Ondatra zibethica*	Canada	hair		(0.363-0.874)	Jervis et al. (1970)
" "	"	liver		(0.04-0.251)	"
" "	"	nail		1.97	"
Mountain goat *Oreamnus americanus*	Idaho	hair		0.1	Huckabee et al. (1972)

Rabbit *Oryctolagus cuniculus*	Yugoslavia (in mercury area mine & plant)	kidney	W	(21.29-44.5)	Byrne et al. (1971)
" "	" " "	liver	W	(2.71-4.11)	"
" "	" " "	muscle	W	(0.023-0.096)	"
" "	" " "	fur	W	0.5	"
" "	Yugoslavia (in control area)	fur	W	0.3	"
" "	Yugoslavia (in contam. area 9 wks.)			292.3	Kosta et al. (1975)
Sheep *Ovis aries*	Iraq	muscle		81% <0.05	Bakir et al. (1976)
" "	"	"		14% 0.1-0.5	"
" "	"	"		5% >0.5	"
" "	"	kidney		71% <0.05	"
" "	"	"		35% >0.05	"
Bighorn sheep *Ovis canadensis*	Wyoming	hair		<0.008	Huckabee et al. (1973)
White-footed mice *Peromyscus spp.*	Saskatchewan	liver	W	(0.017-0.838) 0.231± 0.202	Fimreite et al. (1970)
White-footed mouse *Peromyscus leucopus*	Ohio	leg	W	(0.003-0.12)	Curnow et al. (1977)
" "	"	liver	W	(ND-0.233)	"
Raccoon *Procyon lotor*	N. Florida	hair	D	(0.52-35.7) 7.5	Cumbie & Jenkins (1974)
" "	S. Florida	"	D	(0.84-10.1)4.35	"

Raccoon *Procyon lotor*	Florida	juvenile, hair	D	40.1	Cumbie (1975b)
" "	Georgia, Piedmont	hair	D	(9.3-26.8) 15.9	"
" "	Georgia, lower coastal plain	"	D	(0.23-50.6) 6.12	Cumbie & Jenkins (1974)
" "	Georgia, upper coastal plain	"	D	(0.28-3.81) 1.55	"
Canadian reindeer, Caribou *Rangifer caribou*	NWT, Canada	liver	W	0.2±SD 0.036	Smith & Armstrong (1975)
" "	"	muscle	W	0.017±SD 0.006	"
Reindeer *Rangifer tarandus*	Sweden	"		(0.005-0.023) 0.013	Smart (1968)
" "	"	liver		(0.009-0.044) 0.026	"
" "	"	muscle	W	(0.005-0.023)	Westoo (1969)
" "	"	liver	W	(0.004-0.27)	"
" "	"	kidney	W	0.002	"
Brown rat *Rattus norvegicus*	"	liver	W	(0.173-1.0)	Lihnell & Stenmark (1967)
" "	Sweden (killed at farm granary)	"	W	95.0	"
Gray squirrel *Sciurus carolinensis*	Wisconsin	muscle	W	(0.01-0.22)	Kleinert & Degurse (1972)

Gray squirrel Sciurus carolinensis	Ohio	leg muscle	W	0.01	Curnow et al. (1977)
" "	"	breast muscle	W	0.004	"
Squirrel Sciurus sciurus	Sweden	liver	W	(0.027-0.063)	Lihnell & Stenmark (1967)
Common shrew Sorex araneus	"	liver	W	0.3	"
Pygmy shrew Sorex minutus	"	"	W	(0.9-1.5)	"
Long-tailed shrew Sorex vagrans	Wyoming	hair		<0.008	Huckabee et al. (1972)
Richardsons ground squirrel Spermophilus richardsoni	Alberta	liver	W	(0.018-3.47) 1.051±SD 0.571	Fimreite et al.(1970)
" "	Saskatchewan	"	W	(0.082-0.122) 0.102±SD 0.02	"
Pig Sus scrofa	Sweden	"	W	(0.096-0.14)	Westoo (1967)
" "	"	kidney	W	(0.014-0.086)	" (1969)
" "	"		W	0.006	"
" "	Canada (fed Hg contam. fish)	liver	W	(0.28-0.41)	Sergeant & Armstrong (1973)
" "	"	muscle	W	0.12-0.19	"
" "	Sweden	"	W	(0.006-0.016)	Westoo (1969)
" "	"	"	W	(0.016-0.13) 0.03	Smart (1968)

Pig Sus scrofa	Denmark	muscle	W	(0.002-0.007) 0.003	Smart (1968)
" "	"	liver	W	(0.005-0.02) 0.009	"
" "	"	"	W	(0.014-0.183)0.06	"
" "	New Mexico (fed Hg grain)	blind hog, liver	W	25.2	Curley et al. (1971)
" "	New Mexico	brain	W	36.1	"
" "	" "	kidney	W	12.0	"
" "	" "	muscle	W	14.2	"
" "	New Mexico (5 hogs fed Hg grain)	brain	W	(3.5-21.0) 12.5±SE 3.46	"
" "	" " "	liver	W	(<3.5-21.0) 12.2±SE 3.05	"
" "	" " "	kidney	W	(8.4-25.2) 17.4±SE 3.10	"
" "	" " "	muscle	W	(9.5-23.1) 15.8±SE 2.29	"
" "	" " "	colon	W	(6.5-24.2) 15.5± SE 3.81	"
Yellow-necked field mouse Sylvaemus flavicollis	Sweden	liver	W	(0.009-12.2)	Lihnell & Stenmark (1967)
" "	"	muscle	W	0.008	Johnels & Westermark (1969)
Long-tailed field mouse Sylvaemus sylvaticus	Sweden	liver	W	(0.045-6.4)	Lihnell & Stenmark (1967)

Cottontail rabbit *Sylvilagus floridanus*	Wisconsin	liver	W	(0.01-0.04)0.01	Kleinert & Degurse (1972)
" "	"	muscle	W	(trace-0.01)0.01	"
" "	Ohio	leg muscle	W	0.021	Curnow et al. (1977)
Mexican free-tailed bat *Tadarida brasiliensis*	Arizona	guano		(0.07-0.16)	Petit & Altenbeck (1973)
Red squirrel *Tamiasciurus trouessart*	Wisconsin	muscle	W	0.14	Kleinert & Degurse (1972)
Black bear *Ursus americanus*	Idaho	hair	W	(0.11-0.275)0.18	Benson et al. (1974)
" "	"	muscle	W	(0.04-0.171)	"
" "	"	fat	W	(0.05-0.12)	"
Gray fox *Urocyon cinereoargenteus*	Georgia, Piedmont	hair	D	(0.39-23.4)2.39	Cumbie & Jenkins (1974)
" "	Georgia, coastal plain	"	D	(0.82-8.41)0.76	Cumbie (1975b)
Red fox *Vulpes vulpes*	Georgia, lower coastal plain	"	D	(0.19-0.26)0.49	Cumbie & Jenkins (1974)
" "	Georgia, upper coastal plain	"	D	(0.06-5.67)2.34	"
" "	Sweden	liver		30.0 (max.)	Borg et al. (1969)

Western jumping mouse Zapus princeps	Wyoming	hair	(0.3-0.8)0.6	Huckabee et al. (1973)
Mastodon	New York	neck bone	1.0	Harriss (1971)

MERCURY IN BIRDS(1)
Water Birds

Species	Locality	Tissue	Analysis(2) PPM	Authority
Spotted sandpiper *Actitis macularia*	Lake St. Clair	carcass	W 0.55	Dustman et al. (1972)
" "	"	liver	W 2.8	"
Little auk *Alle alle*	Great Britain	"	D 5.5	Dale & Baxter (1973)
Razorbill *Alca torda*	Faroes Isl.	"	D (4.0-7.5)	"
Wood duck *Aix sponsa*	British Columbia	"	W (0.1-0.2)0.16	Fimreite et al. (1971)
" "	Wisconsin	muscle	W (0.01-0.21)	Kleinert & Degurse (1972)
" "	"	liver	W (0.04-0.62)	"
Pintail *Anas acuta*	N. Dakota	"	W (0.055-9.512) 0.888±SD 1.796	Krapu et al. (1973)
" "	" "	(juveniles) liver	W 0.123	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (S.D.), standard error (S.E.), median and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Pintail *Anas acuta*	California	muscle	W (0.05-0.15)0.09	Baskett (1975)
" "	N. Dakota	"	W (0.04-0.09)	"
" "	" "	liver	W (0.23-2.9)	"
" "	Alberta	muscle	W 0.04	Vermeer & Armstrong (1972)
" "	"	liver	W 0.16	"
" "	Saskatchewan	muscle	W 0.06	"
" "	"	liver	W 0.28	"
" "	Manitoba	muscle	W 0.03	"
" "	"	liver	W 0.13	"
" "	Ontario	muscle	W 0.45±0.2 methyl-Hg	Fimreite (1974)
" "	"	"	W 0.22±0.69	"
" "	"	"	W 0.74±0.3	"
" "	"	liver	W 2.23±0.69	"
American wigeon *Anas americana*	Illinois	muscle	W 0.035±0.012	Anderson & Smith (1977)
" "	"	liver	W 0.025±0.002	"
Green-winged teal *Anas carolinensis*	Lake St. Clair	muscle	W (0.1-2.3)0.68	Dustman et al. (1972)
" "	"	liver	W (0.35-5.0)1.5	"
" "	"	kidney	W (0.27-4.4)1.4	"
" "	Wisconsin	liver	W (0.01-0.17)	Kleinert & Degurse (1972)
" "	"	muscle	W (0.02-0.08)	"

Blue-winged teal Anas discors	Lake St. Clair	muscle	W (0.1-2.3)	Dustman et al. (1972)
" "	"	liver	W (0.26-5.0)	"
" "	"	kidney	W (0.27-4.4)	"
" "	Ontario	muscle	W (3.8-10.4)6.46	Vermeer et al. (1973)
" "	Wisconsin	muscle	W (0.04-0.52)	Kleinert & Degurse (1972)
" "	"	liver	W (0.1-1.62)	"
" "	Illinois	"	W 0.14±0.076	Anderson & Smith (1977)
" "	"	muscle	W 0.052±0.02	"
Mallard Anas platyrhynchos	Lake St. Clair	muscle	W (<0.1-1.15)0.48	Dustman et al. (1972)
" "	"	liver	W (0.23-4.8)1.62	"
" "	"	kidney	W (<0.1-3.5)1.13	"
" "	"	egg	W (0.2-2.7)0.82	"
" "	Norway	kidney	W 1.7	Holt (1969)
" "	"	liver	W 1.06	"
" "	Illinois	"	W 0.09±0.058	Anderson & Smith (1977)
" "	"	muscle	W 0.053±0.009	"
" "	Ontario	muscle	W 2.07	Fimreite (1974)
" "	Colorado	control, egg	W 0.012	Haegele et al. (1974)
" "	"	adult fed Hg, egg	W 1.25	"
" "	E. United States	wing	W (0.06-0.18)	Heath & Hill (1974)

Mallard *Anas platyrhynchos*	C. United States	wing	W (0.05-1.0)	Heath & Hill (1974)
" "	W. United States	"	W (0.05-0.55)	"
" "	United States	muscle	W (<0.01-1.06)	Baskett (1975)
" "	Lake St. Clair		W (0.18-0.83	Hartung & Dinman (1972)
" "	Ontario	muscle	W (0.9-10.4)6.13	Vermeer et al. (1973)
" "	Sweden	egg	(0.05-0.5)	Lundholm (1967)
" "	Finland	muscle	(0.0-2.7)	Karppanen et al. (1970)
" "		muscle	2.0	Lofroth (1970)
" "	Alberta	liver	W 0.16	Vermeer & Armstrong (1972)
" "	Saskatchewan	"	W 0.11	"
" "	Manitoba	"	W 0.06	"
Black duck *Anas rubripes*	Ontario	"	W (0.02-0.77)0.38	Fimreite et al. (1971)
" "	Lake St. Clair		W 0.70	Dustman et al. (1972)
" "	Wisconsin	muscle	W 0.13	Kleinert & Degurse (1972)
" "	"	liver	W 0.44	"
" "	E. United States	wing	W (0.1-0.8)	Heath & Hill (1974)

Gadwall *Anas strepera*	Alabama	muscle	W (0.02-3.90)	Baskett (1975)
Grey heron *Ardea cinerea*	Loch Lomond Scotland	liver	D 28.0	Dale & Baxter (1973)
Great blue heron *Ardea herodius*	Lake St. Clair	carcass	W (5.3-23.0)14.4	Dustman et al. (1972)
" "	"	liver	W (14.6-175.0)97.0	"
" "	New Brunswick	"	W 4.53	Fimreite et al. (1971)
" "	Lake Erie	muscle	W (0.07-0.69)	Hoffman & Curnow (1973)
" "	" "	liver	W (0.74-4.34)	"
" "	" "	brain	W (0.08-0.31)	"
" "	" "	feather	W (2.72-4.27)	"
" "	Wisconsin	egg	W 0.29	Faber & Hickey (1973)
" "	"	muscle	W (0.07-0.24)0.14	Kleinert & Degurse (1972)
" "	"	liver	W (0.22-1.07)0.5	"
Redhead *Aythya americana*	"	muscle	W 0.03	"
" "	"	liver	W 0.12	"
Lesser scaup *Aythya affinis*	Lake St. Clair	muscle	W (0.54-1.2)0.81	Dustman et al. (1972)
" "	"	liver	W (1.8-5.6)3.2	"
" "	"	kidney	W (0.96-2.6)2.01	"

Lesser scaup *Aythya affinis*	Lake St. Clair		W (0.84-1.76)	Hartung & Dinman (1972)
" "	Wisconsin	muscle	W (0.05-0.6)	Kleinert & Degurse (1972)
" "	"	liver	W (0.16-1.01)	"
" "	United States	muscle	W (0.02-2.0)	Baskett (1975)
Ring-necked duck *Aythya collaris*	Wisconsin	muscle	W (0.02-0.11)	Kleinert & Degurse (1972)
" "	"	liver	W (0.03-0.29)	"
" "	Utah	muscle	W (0.06-0.18)0.11	Baskett (1975)
Greater scaup *Aythya marila*	Lake St. Clair		W 0.94	Hartung & Dinman (1972)
" "	Wisconsin	muscle	W (0.03-0.13)	Kleinert & Degurse (1972)
" "	"	liver	W (0.09-0.43)	"
" "	Great Britain	"	D (5.3-9.9)	Dale & Baxter (1973)
" "	Utah	muscle	W 0.02	Baskett (1975)
Canvasback *Aythya valisneria*	Wisconsin	"	W 0.01	Kleinert & Degurse (1972)
" "	"	liver	W 0.04	"
" "	Utah	muscle	W (0.05-0.24)0.14	Baskett (1975)

Canvasback *Aythya valisneria*	Saskatchewan	muscle	W 0.01	Vermeer & Armstrong (1972)
" "	"	liver	W 0.03	"
American bittern *Botaurus lentiginosus*	Lake St. Clair	carcass	W 0.55	Dustman et al. (1972)
" "	"	liver	W 1.75	"
Marbled murrelet *Branchyramphus marmoratum*	British Columbia	liver	W (0.19-4.9)2.23	Fimreite et al. (1971)
" "	"	"	W (0.33-0.46)0.38	"
Canada goose *Branta canadensis*	Lake St. Clair	muscle	W <0.1	Dustman et al. (1972)
" "	"	liver	W 0.18	"
" "	"	kidney	W <0.1	"
" "	Norway	"	W 1.3	Holt (1969)
" "	Wisconsin	muscle	W (trace-0.01)	Kleinert & Degurse (1972)
" "	"	liver	W (0.01-0.05)	"
Cattle egret *Bubulcus ibis*	Louisiana	egg	W 0.05	Faber & Hickey (1973)
" "	Florida	"	W 0.05	Ogden et al. (1974)
Bufflehead *Bucephela albeola*	N.W. Atlantic		D (1.0-1.1)	Windom (1972)
" "	" "		D 3.5	"

Goldeneye *Bucephala clangula*	Ontario	liver	W 0.63	Fimreite et al. (1971)
" "	Norway	kidney	W 0.9	Holt (1969)
" "	"	liver	W 0.19	"
" "	Ontario	muscle	W (0.09-19.4)7.8	Vermeer et al. (1973)
" "	"	"	W (1.78-14.7)	Fimreite (1974)
" "	Vermont	"	W (0.21-0.76)0.42	Baskett (1975)
" "	Wisconsin	"	W (0.13-0.35)	Kleinert & Degurse (1972)
" "	"	liver	W (0.44-1.46)	"
" "	Ontario	muscle	W 7.1±2.91 methyl Hg	Fimreite (1974)
" "	"	"	W 9.88±4.06	"
" "	"	"	W 1.3±0.41	"
" "	"	liver	W 19.5±7.99	"
Green heron *Butorides virescens*	Louisiana	egg	W 0.16	Faber & Hickey (1973)
Knot *Calidris canutus*	Great Britain	liver	D (1.0-10.0)	Parslow (1973)
Common egret *Casmerodius albus*	Lake St. Clair	carcass	W 0.74	Dustman et al. (1972)
" "	"	liver	W 6.3	"
" "	Louisiana	egg	W 0.09	Faber & Hickey (1973)
" "	Wisconsin	"	W 0.26	"

Common egret *Casmerodius albus*	Florida	egg	W (0.13-0.91)	Ogden et al. (1974)
" "	Lake Erie	muscle	W (0.31-0.68)	Hoffman & Curnow (1973)
" "	" "	liver	W (0.65-2.46)	"
" "	" "	brain	W (0.15-0.47)	"
" "	" "	feather	W (3.79-6.0)	"
Killdeer *Charadrius vociferous*	Lake St. Clair	carcass	W (0.14-0.68)0.45	Dustman et al.(1972)
" "	"	liver	W (0.5-3.7)2.2	"
Black tern *Chlidonias niger*	"	carcass	W (0.41-1.3)	"
" "	"	liver	W (1.3-3.5)	"
" "	Michigan	egg	W 0.49	Faber & Hickey (1973)
Blue goose *Chen caerulescens*	Wisconsin	muscle	W 0.01	Kleinert & Degurse (1972)
" "	"	liver	W 0.01	"
Snow goose *Chen hyperborea*	"	muscle	W 0.01	"
" "		liver	W 0.01	"
Whistling swan *Cygnus columbianus*	"	muscle	W (0.02-0.13)0.06	"
" "	"	liver	W (0.01-0.32)0.16	"
Whooper swan *Cygnus cygnus*	Norway	muscle	W 0.82	Holt (1969)
Fulvous tree duck *Dendrocygna bicolor*	Texas		>0.5	Montague (1971)

Dunlin *Erolia alpina*	Lake St. Clair	carcass	W (<0.1-0.2)0.15	Dustman et al. (1972)
" "	"	liver	W (0.7-1.3)0.95	"
" "	Great Britain	liver	D (1.0-10.0)	Parslow (1973)
White ibis *Eudocinnus albus*	Florida	muscle	W (0.05-2.62)	Ogden et al. (1974)
" "	"	brain	W <0.05	"
" "	"	egg	W (<0.05-0.09)	"
American coot *Fulica americana*	Wisconsin	muscle	W (0.03-0.07)0.05	Kleinert & Degurse (1972)
" "	"	liver	W (0.14-0.35)0.24	"
Little blue heron *Florida caerulea*	Louisiana		W 0.08	Faber & Hickey (1973)
Puffin *Fratercula arctica*	Great Britain	liver	D (1.8-4.1)	Dale & Baxter (1973)
" "	"	"	D 7.7	in "
Fulmar *Fulmarus glacialis*	"	"	D (3.6-3.8)	Dale & Baxter (1973)
Common gallinule *Gallinula chloropus*	Lake St. Clair	carcass	W 0.41	Dustman et al. (1972)
" "	"	liver	W 1.4	"
Common loon *Gavia immer*	Ontario	"	W ±100.0	Fimreite (1974)

Common loon *Gavia immer*	Ontario	liver	W	90.5	Fimreite (1973)
Red-throated loon *Gavia stellata*	Scotland	"	D	(9.1-79.0)	Dale & Baxter (1973)
Crane *Grus grus*	Netherlands	"	W	0.44	Koeman et al. (1976)
" "	"	kidney	W	18.0	"
Louisiana heron *Hydranassa tricolor*	Louisiana		W	0.09	Faber & Hickey (1973)
Herring gull *Larus argentatus*	Michigan	egg	W	0.54	"
" "	Ontario	"	W	(1.5-15.8)	Vermeer et al. (1973)
" "	"	albumen	W	22.7	"
" "	"	yolk	W	3.4	"
" "	"	albumen	W	16.1	"
" "	"	yolk	W	3.5	"
" "	Norway	kidney	W	0.4	Holt (1969)
" "	"	"	W	0.86	"
" "	Great Britain	egg	W	0.04	Peden et al. (1973)
" "	Faroes	liver	D	2.5	Dale & Baxter (1973)
" "	Scotland	"	D	(8.0-12.0)	"
Common gull *Larus canus*	Norway	kidney	W	15.7	Holt (1969)
" "	Sweden	kidney & liver	W	3.0	Borg et al. (1965)

Ring-billed gull *Larus delawarensis*	Lake St. Clair	carcass	W	(0.14-0.7)0.41	Dustman et al. (1972)
" "	"	liver	W	(0.65-1.8)1.22	"
Lesser black-backed gull *Larus fuscus fuscus*	Norway	muscle	W	0.3	Lande (1977)
" " "	Scotland	liver	D	0.7	Dale & Baxter (1973)
" " "	Great Britain	egg	W	0.04	Peden et al. (1973)
Glaucous-winged gull *Larus glaucescens*	British Columbia	liver	W	(0.09-0.88)	Fimreite et al. (1971)
Glaucus gull *Larus hyperboreus*	Great Britain	liver	D	5.2	Dale & Baxter (1973)
Bonaparte's gull *Larus philadelphia*	British Columbia	liver	W	(0.1-0.28)0.19	Fimreite et al. (1971)
Black-headed gull *Larus ridibundus*	Sweden	kidney & liver	W	(4.0-5.8)	Borg et al. (1965)
" "	Norway	liver	W	(0.8-2.9)	Holt (1969)
" "	"	kidney	W	1.22	"
" "	Sweden	liver		(0.5-20.0)	Lundholm (1967)
" "	"	egg		(0.1-2.0)	"
Western gull *Larus occidentalis*	British Columbia	liver	W	(0.12-0.37)0.25	Fimreite et al. (1971)
Snowy egret *Leucophoyx thula*	Louisiana	egg	W	0.53	Faber & Hickey (1973)

Hooded merganser *Lophodytes cucullatus*	Wisconsin	egg	W	0.96	Faber & Hickey (1973)
" "	"	muscle	W	(0.49-0.83)0.62	Kleinert & Degurse (1972)
" "	"	liver	W	(1.94-3.39)2.49	"
" "	Ontario	muscle	W	(3.9-17.6)12.31	Vermeer et al. (1973)
" "	N.W. Atlantic	"	D	(2.1-2.2)	Windom (1972)
" "	" "	liver	D	5.4	"
American widgeon *Mareca americana*	Ontario	muscle	W	(0.3-0.9)0.48	Vermeer et al. (1973)
" "	Wisconsin	"	W	(0.01-0.06)	Kleinert & Degurse (1972)
" "	"	liver	W	(0.03-0.08)	"
Belted kingfisher *Megaceryle alcyon*	Ontario	"	W	0.94	Fimreite et al. (1971)
White-winged scoter *Melanitta deglandi*	Maryland	muscle	W	(0.07-0.61)0.3	Baskett (1975)
Velvet scoter *Melanitta fusca*	Aberdeen, Scotland	liver	D	5.4	Dale & Baxter (1973)
Surf scoter *Melanitta perspicillata*	Maryland	muscle	W	0.17	Baskett (1975)
Common scoter *Melanitta nigra*	"	"	W	(0.06-0.2)0.12	"

Common merganser *Mergus merganser*	Baltic	whole egg		(0.3-3.5)1.4	Wahlberg et al. (1971)
" "	"	egg white		(0.5-5.8)1.9	"
" "	"	egg yolk		(0.2-1.8)0.7	"
" "	Ontario	muscle	W	(4.4-13.1)6.79	Vermeer et al. (1973)
" "	"	liver	W	86.5	Fimreite (1973)
" "	Sweden	egg white	W	2.75	Westoo (1969)
" "	"	egg yolk	W	0.34	"
" "	Michigan & Wisconsin	egg	W	0.57	Faber & Hickey (1973)
" "	Alberta	muscle	W	0.8	Vermeer & Armstrong (1972)
" "	"	liver	W	1.98	"
" "	Ontario	muscle	W	0.08 methyl-Hg	Fimreite et al. (1974)
" "	"	"	W	0.16	"
" "	"	liver	W	0.76	"
Merganser *Mergus serrator* & *merganser*	Finland 1967	muscle		(0.1-5.2)	Karppanen et al. (1970)
" "	Finland 1968	"		(0.3-2.7)	"
" "	Finland 1969	"		(0.8-4.8)	"
Red-breasted merganser *Mergus serrator*	New Brunswick	egg	W	(0.45-1.17)0.81	Fimreite et al. (1971)

Red-breasted merganser *Mergus serrator*	Michigan	egg	W	1.59	Faber & Hickey (1973)
" "	New Brunswick	egg	W	0.66	Fimreite et al. (1971)
" "	N.W. Atlantic	muscle	D	(3.7-3.8)	Windom (1972)
" "	" "	liver	D	46.0	"
Yellow-crowned night heron *Nyctanassa violacea*	Louisiana		W	0.2	Faber & Hickey (1973)
Black-crowned night heron *Nycticorax nycticorax*	Lake St. Clair	carcass	W	2.8	Dustman et al. (1972)
" "	"	liver	W	14.0	"
" "	"	egg	W	(0.46-1.1)0.77	"
" "	Wisconsin	"	W	0.48	Faber & Hickey (1973)
" "	Lake Erie	muscle	W	(0.27-0.59)	Hoffman & Curnow (1973)
" "	" "	liver	W	(0.67-8.08)	"
" "	" "	brain	W	(0.20-0.62)	"
" "	" "	feather	W	(5.1-12.5)	"
Ruddy duck *Oxyura jamaicensis*	Wisconsin	muscle	W	0.2	Kleinert & Degurse (1972)
" "	"	liver	W	0.7	"
White pelican *Pelecanus erythrorhynchos*	Minnesota	egg	W	0.24	Faber & Hickey (1973)

Brown pelican __Pelecanus occidentalis__	S. Carolina	egg	W	(0.12-0.90) 0.28	Blus et al. (1974)
" "	" "	"	W	0.5	Holden (1973)
" "	Florida	"	W	(0.11-1.47) 0.41	"
" "	California	"	W	(0.17-0.56) 0.42	"
" "	Florida	"	W	(0.12-0.65)	Ogden et al. (1974)
Double-crested cormorant __Phalacrocorax auritus__	New Brunswick	"	W	11.3	Fimreite et al. (1971)
" "	" "	liver	W	(1.22-11.3) 3.51	"
" "	Minnesota	egg	W	0.3	Faber & Hickey (1973)
" "	Florida	"	W	(0.31-0.44)	Ogden et al. (1974)
Pelagic cormorant __Phalacrocorax pelagicus__	British Columbia	liver	W	(1.22-3.68) 2.06	Fimreite et al. (1971)
Great crested grebe __Podiceps cristata__	Sweden	feather 1865-1940	W	(±5.50-±10.0)	Johnels et al. (1968)
" "	"	feather 1940-1966	W	±14.00	"
" "	"	egg		(0.1-2.0)	Lundholm (1967)
Red-necked grebe __Podiceps grisegena__	British Columbia	liver	W	(0.45-17.40) 10.32	Fimreite et al. (1971)

Red-necked grebe *Podiceps grisegena*	Wisconsin	egg	W	0.16	Faber & Hickey (1973)
Pied-billed grebe *Podilymbus podiceps*	Lake St. Clair	"	W	4.0	Dustman et al. (1972)
" "	Wisconsin	muscle	W	(0.46-0.49) 0.47	Kleinert & Degurse (1972)
" "	"	liver	W	(1.54-1.85) 1.7	"
" "	"	egg	W	0.2	Faber & Hickey (1973)
Puffin *Puffinus puffinus*	Hebrides Isl.	"	D	(4.6-5.7)	Dale & Baxter (1973)
Kittiwake *Rissa tridactyla*	Great Britain	liver	D	(1.7-5.2)	"
Common eider *Somateria mollissima*	Netherlands	"	W	(6.9-14.1) 10.4	Koeman et al. (1971)
" "	"	kidney	W	(3.2-5.3) 4.6	"
" "	"	brain	W	(0.93-2.4)1.9	"
" "	Finland	muscle		(0.1-2.2)	Karppanen et al. (1970)
" "	"	egg	W	0.33	Holden (1973)
" "	"	muscle		3.9	Henriksson et al. (1966)
" "	"	liver		12.9	"

Common eider *Somateria mollissima*	Finland	kidney	1.6	Henriksson et al. (1966)
" "	Great Britain	liver	D (24.6-48.0)	Dale & Baxter (1973)
" "	"	"	W 0.579	Jones et al (1972)
" "	"	kidney	W 0.366	"
" "	"	adrenal	W 1.219	"
" "	"	muscle	W <0.001	"
" "	"	heart	W <0.001	"
" "	"	lung	W <0.001	"
" "	"	muscle	W 0.2	Lande (1977)
" "	"	liver	W 0.6	"
" "	"	egg	W 0.2	"
Shoveler *Spatula clypeata*	Alberta & Saskatchewan	muscle	W 0.34	Vermeer & Armstrong (1972)
" "	Wisconsin	"	W (0.13-0.4)	Kleinert & Degurse (1972)
" "	"	liver	W (0.41-1.04)	"
Sooty tern *Sterna fuscata*	Florida	muscle	W 0.05	Ogden et al. (1974)
Common tern *Sterna hirundo*	New Brunswick	liver	W (0.18-1.42) 0.58	Fimreite et al. (1971)
" "	"	egg	W (2.28-2.70) 2.5	"

Common tern *Sterna hirundo*	New Brunswick	egg	W 0.124	Holden (1973)
" "	Lake St. Clair	carcass	W (0.4-7.5)3.4	Dustman et al. (1972)
" "	"	liver	W (2.1-39.0)18.1	"
" "	"	egg	W (0.6-6.25)2.72	"
" "	Ontario	"	W (0.87-6.49)	Fimreite (1974)
" "		"	W (0.5-2.4)	Vermeer (1971)
Gannett *Sula bassana*	Scotland	liver	D (9.6-13.3)	Dale & Baxter (1973)
Shelduck *Tadorna tadorna*	Great Britain	"	D 5.9	"
Royal tern *Thalasseus maximus*	S. Carolina (polluted)		W 0.8	Holden (1973)
Royal tern *Thalasseus sandvicensis*	Netherlands	liver	W (2.9-10.0)4.9	Koeman et al. (1971)
" "	"	brain	W (0.53-2.3)1.3	"
" "	"	egg	W (0.84-3.6)1.7	"
Redshank *Tringa totanus*	Great Britain	liver	D (1.0-10.0)	Parslow (1973)
Guillemot *Uria aalge*	"	"	D (0.7-5.3)	Dale & Baxter (1973)

MERCURY IN BIRDS
Birds of Prey

Coopers hawk *Accipiter* *cooperii*	Arizona	egg	D 0.02	Snyder et al. (1973)
" "	Saskatchewan	"	W (0.044-0.126) 0.085	Fimreite et al. (1970)
Goshawk *Accipiter* *gentilis*	Sweden	feather, 1860-1946	W (0.2-5.0) 2.2	Johnels & Westermark (1969)
" "	"	feather, 1947-1965	W(0.3-115.0) 29.0	"
" "	"	feather, 1967-1969	W (3.1-5.1)	Westermark et al. (1975)
" "	"	liver	W (6.0-53.0)	Borg et al. (1966)
" "	Norway	kidney	W (1.0-29.0)	Holt (1969)
" "	"	egg	W (0.77-1.4)	"
" "	Netherlands	feather	D (5.0-72.0)	Spronk & Hartog (1971)
Sparrow hawk *Accipiter* *nisus*	Norway	kidney	W 1.6	Holt (1969)
" "	"	kidney, found dead	W 12.3	"
" "	Great Britain	liver found dead	D 20.0	Dale & Baxter (1973)

Sparrow hawk Accipiter nisus	Netherlands	liver, found dead	W (8.3-10.0)	Koeman et al. (1976)
" "	"	kidney, found dead	W (6.7-10.0)	"
Sperver Accipiter sp.	"	feather	D (0.2-16.0)	Spronk (1971)
" "	"	liver	(2.46-47.8)	Fuchs et al. (1971)
Sharp-shinned hawk Accipiter striatus	Saskatchewan	egg	W 0.119	Fimreite et al. (1970)
Golden egale Aquila chrysaetos	Norway	kidney	W (0.23-0.65)	Holt (1969)
" "	"	egg	W (0.037-0.23)	"
" "	Alberta	"	W (0.024-0.218)0.1 ±0.059	Fimreite et al. (1970)
" "	Saskatchewan	"	W (0.017-0.032)0.025	"
" "	Great Britain	liver	D 2.0	Dale & Baxter (1973)
Eagle Aquila sp.	Turkey	feather	D <1.0	Spronk & Hartog (1971)
Short-eared owl Asio flammeus	Norway	kidney, found dead	W 0.068	Holt (1969)
" "	Alberta	liver	W (0.42-11.3) 6.37±SE 3.289	Fimreite et al. (1970)
Long-eared owl Asio otus	Sweden	feather, 1865	W 2.7	Berg et al. (1966)

Long-eared owl *Asio otus*	Sweden	feather, 1965	W (14.1-109.0)	Berg et al. (1966)
" "		liver & kidney	W (4.0-270.0)	Borg et al. (1966)
" "	Sweden	feather, after 1966 ban of Hg	W 1.0	Westermark et al. (1975)
" "	Norway	kidney (dead)	W 0.64	Holt (1969)
" "	Netherlands	liver	W 7.0	Koeman et al. (1976)
" "	"	"	W 66.0	"
" "	"	kidney	W 68.0	"
Eagle owl *Bubo bubo*	Sweden	feather, 1829-1933	W (0.53-3.6)2.5	Berg et al. (1966)
" "	"	feather, 1964-1965	W (12.8-41.0)	"
" "	Norway	kidney	W (0.68-1.0)	Holt (1969)
Great horned owl *Bubo virginianus*	Alberta	egg	W 1.94	Fimreite et al. (1970)
" "	Saskatchewan	"	W (0.014-0.121) 0.076±SE 0.017	"
Buzzard *Buteo buteo*	Sweden	feather, 1861-1965	W (4.0-33.0)	Berg et al. (1966)
" "	"	feather, 1965	W to 40.0	Westermark et al. (1975)
" "	"	feather, 1966-1967	W <5.0	"
" "	"	liver	W (2.1-6.5)	Borg et al. (1966)
" "	Norway	kidney	W 0.3	Holt (1969)
" "	"	egg	W 0.11	"

Buteo b. vulpinus	Netherlands	feather	D (2.0-23.0)	Spronk (1971)
" " "	"	liver	(0.67-21.1)	Fuchs et al. (1971)
" " "	"	"	W (0.57-99.0)	Koeman et al. (1976)
" " "	"	kidney	W (0.65-93.0)	"
" " "	"	feather	D (1.0-23.0)	Spronk & Hartog (1971)
Red-tailed hawk *Buteo jamaicensis*	Canada	experimentally poisoned with Hg	W (17.0-20.0)	Fimreite & Karstad (1971)
" "	Alberta	liver	W 0.483	Fimreite et al. (1970)
" "	Saskatchewan	"	W (0.219-0.949) 0.451±SE 0.081	"
Rough-legged hawk *Buteo lagophus*	Norway	egg	W (0.6-1.3)	Holt (1969)
Ferruginous hawk *Buteo regalis*	Alberta	"	W (0.011-0.249) 0.066±SE 0.031	Fimreite et al. (1970)
" "	Saskatchewan	"	W (0.023-0.061) 0.034±SE 0.009	"
Swainson's hawk *Buteo swainsoni*	Alberta	egg	W (0.030-0.417) 0.12±SE 0.054	"
" "	Saskatchewan	"	W 0.283	"
" "	"	liver	W (0.219-0.949) 0.451±SE 0.081	"
" "	Alberta	"	W (0.23-1.48)0.762 ±SE 0.239	"
Turkey vulture *Cathartes aura*	Ontario	"	W ±100.0	Fimreite (1974)

Marsh harrier *Circus aeruginosa*	Netherlands	kidney	W 4.0	Koeman et al. (1976)
" "	Sweden	feather 1965-1966	W (3.0-126.0)	Westermark et al. (1975)
" "	"	feather 1967-1968 (after ban)	W (2.0-25.0)	"
Marsh hawk *Circus cyaneus*	Sweden	feather, 1860	W 1.6	Berg et al. (1966)
" "	Norway	egg	W 0.25	Holt (1969)
" "	Saskatchewan	liver	W (0.028-0.127) 0.069±SE 0.03	Fimreite et al. (1970)
" "	"	egg	W 0.014	"
" "	Alberta	"	W (0.018-0.06) 0.031±SE 0.008	"
Pigeon hawk *Falco columbarius richardsoni*	Alberta	egg	W (0.153-0.543) 0.283±SE 0.045	"
Prairie falcon *Falco mexicanus*	Saskatchewan	"	W (0.033-0.427) 0.169±SE 0.036	"
" "	Alberta	"	W (0.019-1.71) 0.24±0.038	"
" "	"	liver	W 1.26	"
Peregrine, Duck hawk *Falco peregrinus*	Sweden	feather, 1834-1941	W (0.34-6.2) 2.5	Berg et al. (1966)
" "	"	feather, 1943-1965	W (42.0-56.0)	"
" "	N.W.T. Canada	egg	W (0.315-0.568)	Fimreite et al. (1970)
American kestrel *Falco sparverius*	New York	"	W 0.166±0.261	Lincer & McDuffie (1974)

Kestrel _Falco_ _tinnunculus_	Norway	egg	W 0.33	Holt (1969)
" "	Netherlands	kidney (found dead)	W (9.0-108.0)	Koeman et al. (1976)
" "	"	experimentally poisoned with Hg	W (49.0-122.0)	Koeman et al. (1971)
White-tailed eagle _Haliaeetus_ _albicilla_	Sweden	tail feather 1832-1949	W (2.70-15.5)6.6	Berg et al. (1966)
" "	"	tail feather 1952-1965	W (4.90-64.0)57.1	"
" "	"	liver	W (<1.0->40.0)	Borg et al. (1965)
" "	"	egg	W (3.10-11.0)	"
" "	Finland	liver	(4.6-27.1)	Henriksson et al. (1966)
" "	"	ovary	(8.0-24.7)	"
" "	"	kidney	(48.6-123.1)	"
" "	"	muscle	(1.9-8.4)	"
" "	"	feather	(8.7-28.5)	"
" "	"	brain	8.1	"
" "	Norway	kidney	W (0.0-1.33)	Holt (1969)
" "	Sweden	liver	37.0	Westermark (1967)
" "	Netherlands	feather	D (2.0-27.0)	Spronk (1971)
Bald eagle _Haliaeetus_ _leucocephalus_	Minnesota	carcass	W 59.0	Mulhern et al. (1970)
" "	"	brain	W 130.0	"

Bald eagle Haliaeetus leucocephalus		Florida	egg	W (0.3-0.7)0.5	Wiemeyer et al. (1972)
"	"	Alaska	"	W (0.1-0.3)0.2	"
"	"	Maine	"	W (0.3-0.4)0.3	"
"	"	Michigan	"	W 0.4	"
"	"	Minnesota	"	W (0.2-0.3)0.3	"
Osprey Pandion haliaetus		Sweden	feather 1840-1940	W (±3.5-5.0)	Johnels et al. (1968)
"	"	"	feather 1940-1966	W >17.0	"
"	"	"	feather	W (4.0-17.0)	Ljundggren et al. (1971)
"	"	"	muscle & egg	W (0.3-0.5)	"
"	"	Florida	egg	W (0.07-0.21)	Ogden et al. (1974)
Honey buzzard Pernis apivorus		Netherlands	feather	D 2.0	Spronk & Hartog (1971)
Burrowing owl Speotyto cunicularia		Alberta	liver	W (1.23-6.24) 3.735	Fimreite et al. (1970)
"	"	Saskatchewan	"	W 0.729	"
"	"	"	egg	W 0.112	"
Tawny owl Strix aluco		Sweden	feather	W (1.7-8.7)	Berg et al. (1966)
"	"	"	liver & kidney	270.0	Otterlind & Lennerstedt (1964)
"	"	Norway	kidney	W (1.1-2.7)	Holt (1969)

Tawny owl Strix aluco	Norway	kidney, found dead	W (1.0-5.7)	Holt (1969)
" "	"	egg	W 0.102	"
Hawk owl Surnia ulula	"	kidney	W 0.1	"
Barn owl Tyto alba	Netherlands	kidney	W 25.0	Koeman et al. (1976)
" "	Sweden	feather 1921-1947	W (1.0-3.0)	Westermark et al. (1975)
" "	"	feather 1952-1965	W (9.0-126.0)	"
" "	"	feather, 1966 (after ban)	W (1.0-6.0)	"

MERCURY IN BIRDS
Terrestrial Birds

Redwinged blackbird Agelaius phoeniceus	Alberta	liver	W 0.884	Fimreite et al. (1970)
Chukar Alectoris graeca	Utah	muscle	W (0.01-0.11)0.05	Smith et al. (1974)
Waxwing Bombycilla garrulus	Norway	kidney	W 0.8	Holt (1969)
" "	"	liver	W 12.6	"
Ruffed grouse Bonasa umbellus	Wisconsin	muscle	W (0.1-0.3)0.1	Kleinert & Degurse (1972)
" "	"	liver	W (0.2-0.5)0.3	"
Chestnut-collared longspur Calcarius ornatus	Alberta	"	W (0.066-0.129) 0.098	Fimreite et al. (1970)

Siskin *Carduelis spinus*	Norway	kidney	W (1.0-2.0)	Holt (1969)
Sage grouse *Centrocercus urophasianus*	Colorado		(0.04-16.0)	Montague (1971)
Bandtailed pigeon *Columba fasciata*	Washington	liver	5.32	Mitre Corp. (1975)
" "	"	muscle	(<0.4-0.5)	"
Pigeon *Columba livia*	Norway	kidney	W (1.0-2.1)	Holt (1969)
Stock dove *Columba oenas*	"	muscle	W 0.6	"
Wood pigeon *Columba palumbus*	"	kidney	W (0.78-4.8)	"
" "	Sweden	egg	(0.5-2.0)	Lundholm (1967)
" "	Finland	muscle	(0.1-0.3)0.2	Karppanen et al. (1970)
" "	Sweden	liver	W (0.1->40.0)2.0	Borg (1970)
" "	Great Britain		7.1	Smart (1968)
Raven *Corvus corax*	Ontario	liver	W ±100	Fimreite (1974)
Hooded crow *Corvus corone cornix*	Norway	kidney	W (0.75-60.0)	Holt (1969)
" " "	Sweden	liver	35.0	Westermark (1967)
" " "	"	kidney	28.0	"
" " "	"	muscle	18.0	"
" " "	"	brain	12.5	"
" " "	"	liver	(0.1->20.0)	Lundholm (1967)

Hooded crow *Corvus corone cornix*	Sweden	egg	(0.0->2.0)	Lundholm (1967)
" " "	"	liver & kidney	(29.0-110.0)	Ackefors (1971)
Japanese quail *Coturnix coturnix*	Fed 8 ppm $HgCl_2$ 10 weeks:			Stoewsand et al. (1971)
" "		liver	0.11	
" "		kidney	0.8	"
" "		muscle	0.2	"
" "		egg	0.7	"
" "		feather	1.04	"
House martin *Delichon urbica*	Sweden	liver	1.2	Lihnell & Stenmark (1967)
Bluethroat *Cyanosylvia svecica*	Norway	liver	W 0.7	Holt (1969)
Corn bunting *Emberiza calandra*	Sweden	feather	W (0.72-1.35)	Berg et al. (1966)
Yellow hammer *Emberiza citrinella*	"	feather	W (1.0-95.0)	Westermark et al. (1975)
" "	"	liver	W (0.058-18.0)	"
" "	"	muscle	W (0.026-9.0)	"
Reed bunting *Emberiza schoeniclus*	Norway	kidney	W 1.0	Holt (1969)
Horned lark *Eremophila alpestris*	Alberta	liver	W (0.02-10.1) 1.573±SE 1.004	Fimreite et al. (1970)
" "	Saskatchewan	"	W (0.019-0.943) 0.454±SE 0.142	"

Brewers blackbird Euphagus cyanocephalus	Alberta	liver	W (0.077-0.64) 0.284±SE 0.181	Fimreite et al. (1970)
Chaf finch Fringilla coelebs	Norway	kidney	W (1.0-2.0)	Holt (1969)
Brambling Fringilla montifringilla	"	"	W 1.0	"
Chicken Gallus gallus	Sweden	egg white	W (0.006-0.027)	Westoo (1969)
" "	"	egg yolk	W (0.005-0.006)	"
" "	Netherlands	egg	W (0.005-0.007)	Smart (1968)
" "	Belgium	"	W (0.006-0.008)	"
" "	Denmark	"	W 0.004	"
" "	Italy	"	W (0.005-0.006)	"
" "	Norway	"	W (0.015-0.02)	"
Jay Garrulus garrulus	"	kidney	W 0.51	Holt (1969)
Willow grouse Lagopus lagopus	"	egg	W 0.0054	"
" "	Sweden	feather	W (0.028-0.13)	Berg et al. (1966)
Gambels quail Lophortyx gambelii	Arizona	liver	>0.5	Montague (1971)
" "	"	muscle	<0.2	"
Black grouse Lyrurus tetrix	Norway	kidney	W 0.68	Holt (1969)
Brown-headed cowbird Molothrus ater	Alberta	liver	W 0.274	Fimreite et al. (1970)

Wagtail *Motacilla alba*	Sweden	liver	W 1.1	Westermark (1967)
" "	"	kidney	W 0.8	"
" "	"	muscle	W 0.9	"
" "	"	brain	W 0.6	"
" "	"	liver	(0.0-50.0)	Lundholm (1967)
" "	"	"	(0.4-0.56)	Lihnell & Stenmark (1967)
Blue tit *Parus caeruleus*	Norway	egg	W 0.023	Holt (1969)
" "	Sweden	liver	1.0	Lihnell & Stenmark (1967)
Great tit *Parus major*	Norway	egg	W 0.021	Holt (1969)
" "	Sweden	liver	(0.4-1.8)	Lihnell & Stenmark (1967)
Marsh tit *Parus palustris*	Norway	kidney	W 0.5	Holt (1969)
English sparrow *Passer domesticus*	"	"	W 0.14	"
Gray partridge (Hungarian) *Perdix perdix*	"	liver	W 0.8	"
" "	Finland	muscle	0.0	Karppanen et al. (1970)
" "	Sweden	"	0.8	Lundholm (1967)
" "	"	"	1.2	"
" "	"	feather, 1833-1937	W (0.09-0.93)	Berg et al. (1966)

Gray partridge (Hungarian) *Perdix perdix*	Sweden	feather 1950-1965	W (1.0-6.0)	Berg et al. (1966)
" "	"	feather	W 0.1	"
" "	"	muscle	W 0.015	"
" "	Alberta		W (0.1-0.8)	Benson et al. (1971)
" "	Great Britain		W 0.6	Smart (1968)
" "	Montana	male	W (<0.05-0.37)0.17	Weigand (1973)
" "	"	female	W (0.05-0.34)0.13	"
Ring-necked pheasant *Phasianus colchicus*	Sweden	egg	(1.3-2.0)	Lundholm (1967)
" "	Finland	muscle	(0.0-13.4)	Karppanen et al. (1970)
" "	Idaho		W (0.05-7.6)	Benson et al. (1971)
" "	Alberta		W (0.1-0.8)	"
" "	Idaho	kidney, fed Hg	W 7.7	"
" "	"	liver	W 2.2	"
" "	"	muscle	W 0.16	"
" "	Sweden	feather, 1834-1944	W (0.02-0.2)	Berg et al. (1966)
" "	"	feather 1946-1965	W (1.9-5.7)	"
" "	Denmark	muscle	W 0.01	"
" "	"	feather	W 0.82	"
" "	Idaho	muscle	(0.0-15.0)	Montague (1971)

Ring-necked pheasant *Phasianus colchicus*	Indiana	muscle	0.058	Montague (1971)
" "	"	feather	0.46	"
" "	Oregon	muscle	to 0.5	"
" "	Wyoming		(0.2-0.6)	"
" "	Colorado	muscle	(0.04-0.6)	"
" "	"	egg	to 2.0	"
" "	Sweden (28 of 32 dead)	liver & kidney	W (25.0-140.0)	Borg et al. (1969)
" "	Norway	kidney	W (0.04-1.0)	Holt (1969)
" "	Utah	muscle	W (0.01-2.08)0.146	Smith et al. (1974)
" "	California	"	W (1.6-4.7)	Benson et al. (1971)
" "	Wisconsin	muscle	W (0.01-0.08) 0.01	Kleinert & Degurse (1972)
" "	"	liver	W (0.01-0.28) 0.04	"
" "	Illinois	kidney 35%	W >0.06	Anderson & Stewart (1971)
" "	"	muscle	W (0.02-0.03)	"
" "	"	brain	W 5.93 (max.)	"
" "	Idaho	muscle 35%	>0.5	Huckabee et al. (1972a)
" "	"	" 2.7%	>5.0	"
" "	"	feather	(<0.008-12.4)	"
" "	"	feather, male	26.0	Buhler (1977)

Pheasant *Phasianus colchicus*	Idaho	liver male	12.8	Buhler (1977)
" "	"	kidney, male	6.93	"
" "	"	muscle male	6.33	
Woodcock *Philohela minor*	New Brunswick	(lipid basis)	56.0	Kreitzer (1974)
" "	United States (23 states)	liver	W (0.05-1.1) 0.079	Clark & McLane (1974)
Magpie *Pica pica*	Norway	kidney	W (0.62-1.2)	Holt (1969)
" "	(experimentally fed Hg)	liver, kidney	W (70.0-115.0)	Borg et al. (1969)
Vesper sparrow *Pooecetes gramineus*	Alberta	liver	W (0.113-0.21) 0.162	Fimreite et al. (1970)
Dunnock *Prunella modularis*	Norway	kidney	W 6.7	Holt (1969)
Woodcock *Scolopax rusticola*	"	"	W 0.8	"
Collared dove *Streptopelia decaocto*	"	"	W 0.033	"
Western meadowlark *Sturnella neglecta*	Alberta	liver	W (0.077-0.064) 0.284±SE 0.181	Fimreite et al. (1970)
Starling *Sturnus vulgaris*	Norway	kidney	W 0.13	Holt (1969)
" "	Sweden	"	W (2.4-24.3)	Westermark (1967)
" "	"	liver	W (2.2-21.0)	"
" "	"	muscle	W (0.6-5.7)	"

Starling *Sturnus vulgaris*	Sweden	brain	W (1.0-9.2)	Westermark (1967)
" "	"	liver	(0.0->20.0)	Lundholm (1967)
" "	"	egg	(0.0-1.0)	"
Capercaillie *Tetrao urogallus*	Norway	kidney	W (0.45-0.8)	Holt (1969)
" "	Finland	muscle	(0.0-0.9)	Karppanen et al. (1970)
" "	Sweden	feather	W (<0.04-0.075)	Johnels & Westermark (1969)
Hazel hen *Tetrastes bonasi*	Norway	kidney	W (0.066-0.7)	Holt (1969)
" "	Finland	muscle	(0-0.4)0.1	Karppanen et al. (1970)
Redwing *Turdus iliacus*	Norway	kidney	W 0.057	Holt (1969)
Blackbird *Turdus merula*	"	liver	W 0.6	"
" "	"	kidney	W 0.36	"
" "	Sweden	liver	W (0.3-0.66)	Lihnell & Stenmark (1967)
Song thrush *Turdus philomelos*	Norway	kidney	W 0.57	Holt (1969)
Fieldfare *Turdus pilaris*	"	liver	W 0.2	"
Lapwing *Vanellus vanellus*	"	kidney	W 0.65	"
" "	Sweden	liver	W (2.5-3.25)	Lihnell & Stenmark (1967)

Mourning dove *Zenaidura macroura*	E. United States (except below)	W	<0.05	Kreitzer (1974)
" "	Rhode Island, Penn., Md., Va., Tenn., Ala.	W	(0.07-0.67)	"

MERCURY IN REPTILES AND AMPHIBIA(1)

Reptiles

Species	Locality	Tissue	Analysis(2) PPM	Authority
Alligator *Alligator mississippiensis*	Florida	egg	W (0.007-0.71)	Ogden et al (1974)
Gartersnake *Thamnophis sirtalis*	Lake St. Clair	carcass	W (0.1-0.2)	Dustman et al. (1972)
" "	"	liver	W (0.45-0.6)	"

MERCURY IN REPTILES AND AMPHIBIA

Amphibia

Toad *Bombina variegata*	Yugoslavia control area	liver	W (0.19-2.33)	Byrne et al. (1975)
" "	"	kidney	W (0.21-1.42)	"
" "	"	lung	W (0.03-0.15)	"
" "	"	muscle	W (0.1-0.48)	"
" "	"	egg	W (0.03-0.18)	"
" "	Yugoslavia mining area	liver	W (1.2-1.6)	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (S.D.), standard error (S.E.), median and geometric mean are indicated as reported. pCi/g = picocuries per gram.

European toad _Bufo bufo_	Sweden	liver & kidney	W 0.245	Lihnell & Stenmark (1967)
" "	Yugoslavia control area	liver	W (0.29-1.51)	Byrne et al. (1975)
" "	"	kidney	W (0.19-1.24)	"
" "	"	lung	W (0.038-0.17)	"
" "	"	muscle	W (0.047-0.17)	"
" "	"	egg	W 0.064	"
" "	Yugoslavia polluted Hg mining area	liver	W (22.2-25.5)	"
" "	"	kidney	W (21.0-24.0)	"
" "	"	lung	W (1.11-1.7)	"
" "	"	muscle	W (1.39-2.85)	"
" "	"	egg	W (2.15-2.3)	"
Frog _Rana arvalis_	Yugoslavia control area	liver	W 1.96	"
" "	"	kidney	W 1.63	"
" "	"	lung	W 0.47	"
" "	"	muscle	W 0.48	"
Bullfrog _Rana catesbeiana_	Lake St. Clair	carcass	W 0.10	Dustman et al. (1972)
" "	"	liver	W 0.28	"
Frog _Rana dalmatina_	Yugoslavia control area	liver	W (0.42-0.67)	Byrne et al. (1975)
" "	"	kidney	W (0.29-1.01)	"
" "	"	lung	W (0.078-0.25)	"
" "	"	muscle	W (0.25-0.3)	"

European edible frog *Rana esculenta*	Yugoslavia control area	liver	W (0.22-0.64)	Byrne et al. (1975)
" "	"	kidney	W 0.48	"
" "	"	lung	W 0.17	"
" "	"	muscle	W (0.043-0.12)	"
" "	"	egg	W 0.066	"
Leopard frog *Rana pipiens*	Lake St. Clair	carcass	W (0.1-0.18)	Dustman et al. (1972)
" "	"	liver	W (0.51-1.1)	"
" "	Florida		W 0.07	Ogden et al. (1974)
Frog *Rana temporaria*	Yugoslavia control area	liver	W 0.48	Byrne et al. (1975)
" "	Yugoslavia polluted Hg mining area	"	W 25.9	"
" "	"	kidney	W 16.2	"
" "	"	lung	W 1.54	"
" "	"	muscle	W 3.44	"
" "	"	egg	W 1.25	"
Newt *Triturus alpestris*	Yugoslavia control area	liver	W (0.92-1.32)	"
" "	"	kidney	W (0.045-0.055)	"
" "	"	testes	W (0.083-0.172)	"
Salamander	Yugoslavia polluted Hg mining area	liver	W 9.2	"
"	"	kidney	W 0.37	"
"	"	lung	W 0.41	"

Salamander	Yugoslavia polluted Hg mining area	heart	W 0.5	Byrne et al. (1975)
"	"	spleen	W 0.68	"
"Predatory aquatic insects and frogs"	Canada		(0.01-5.82)	Bligh (1971)

MERCURY IN MARINE FISH(1)

Species	Locality	Tissue	Analysis(2) PPM	Authority
Damselfish *Abundefduf abdominalis*	Hawaii	muscle	W 0.08±SD 0.07	Klemmer et al. (1976)
Damselfish *Abundefduf sindonis*	"	"	W 0.00±SD 0.00	"
Damselfish *Abundefduf sordidus*	"	"	W 0.02±SD 0.00	"
Black porgy *Acanthopagrus schlegelii* (=Nibea schlegelii) (=Sparus macrocephalus)	Minamata Bay, 1961	muscle	D 16.5	Fujiki (1963)
" "	"	liver	D 32.2	"
" "	"	heart	D 18.3	"
" "	"	gill	D 9.1	"
" "	"	digestive gland	D 4.0	"
" "	Matsushima Bay,1961	muscle	D 1.0	Matida & Kumada (1969)
Great sculpin *Acanthocottus scorpius*	Gulf of Bothnia, Finland	muscle	W 0.49±SE 0.05	Koivusaari et al. (1976)

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Surgeonfish *Acanthurus leucopareius*	Hawaii	muscle	W	0.00	Klemmer et al. (1976)
Surgeonfish *Acanthurus mata*	"	"	W	0.03±SD 0.06	"
Surgeonfish *Acanthurus nigroris*	"	"	W	0.05±SD 0.05	"
Surgeonfish *Acanthurus sandvicensis*	"	"	W	0.04±SD 0.04	"
Bonefish *Albula vulpes*	"	"	W	0.08±SD 0.00	"
Halosaur *Aldrovandia macrochir*	Cape Hatteras, 1971 (depth 2500 m)	muscle	W	(0.02-0.09)	Barber et al. (1975)
" "	Cape Hatteras, 1886 (depth 2500 m)	"	W	0.11±0.02	"
Alewife *Alosa pseudoharengus*	New Brunswick	"	W	0.10	Fimreite et al. (1971)
" "	Delaware Bay	"	W	(0.041-0.092) 0.065±SD 0.023	Gerhart (1977)
American shad *Alosa sapidissima*	Virginia		W	0.10	Boyle (1971)
" "	N.W. Atlantic	muscle	W	0.05	Greig et al. (1975)
" "	"	liver	W	0.67	"
Sand lace, sand eel *Ammodytes tobianus* (=Ammodytes lancea)	Netherlands		W	0.17	Koeman et al. (1971)
Atlantic wolffish, catfish *Anarchichas lupus*	Norway (before 1941)	muscle	W	(0.147-0.155)	Raeder & Snekvik (1941)
" "	E. Canada	"	W	0.19±0.12	Freeman et al. (1974)

Atlantic wolffish, catfish *Anarchichas lupus*	Norway	muscle	W	0.2	Lande (1977)
" "	N.W. Atlantic	"	W	(0.07-0.15)	Greig et al. (1975)
" "	" "	liver	W	<0.05	"
Bay anchovy *Anchoa mitchilli*	Delaware Bay	muscle	W	(0.032-0.084) 0.051±SD 0.029	Gerhart (1977)
European eel *Anguilla anguilla* (=*Anguilla vulgaris*)	Sweden	"	W	(0.052-2.03)	Henricksson (1968)
" "	Great Britain	"	D	0.23	Leatherland & Burton (1974)
" "	Sweden	"	W	(0.034-0.88)	Johnels et al. (1967)
" "	Norway		W	0.167	Raeder & Snekvik (1941)
American eel *Anguilla rostrata*	N.W. Atlantic		W	0.27	Windom (1972)
" "	W. Atlantic	muscle	D	2.7	Windom et al. (1973b)
" "	Nova Scotia	"		0.72	Freeman & Horne (1973a)
" "	New Brunswick	"	W	(0.28-0.38)0.32	Fimreite et al. (1971)
Porkfish, mojarra prieta *Anisotremus interruptus*	Mexico	muscle		(0.05-0.23)	Reimer & Reimer (1975)
Sablefish *Anoplopoma fimbria*	Oregon		W	(0.03-0.65) 0.138	Childs & Gaffke (1973)

Blue hake *Antimora rostrata*	Cape Hatteras, 1971 (depth 2500 m)	muscle	W	(0.24-0.76)	Barber et al. (1972)
" "	Cape Hatteras, 1883 (depth 2500 m)	"	W	0.5±0.03	"
" "	W. Atlantic	"	W	(0.32-0.62)	Greig et al. (1976)
Atlantic argentine *Argentina silus*	Norway		W	0.2	Lande (1977)
Sea catfish *Arius felis* (=Galeichthys felis)	Florida		W	0.18	Ogden et al. (1974)
" "	Mexico	muscle	W	(0.52-0.7)0.5	Baez et al. (1976)
" "	Georgia			(0.05-1.2) 0.45±SD 0.42	Mitre Corp. (1975)
Grondin, red gurnard *Aspitrigla cuculus* (=Trigla cuculus)	Mediterranean		W	(0.03-0.32) 0.16	Cumont et al. (1972)
" "	Scotland		W	(0.01-0.15)	Holden (1972)
Arrowtooth flounder *Atheresthes stomias*	Oregon		W	(0.01-0.33) 0.154	Childs & Gaffke (1973)
Gafftopsail catfish *Bagre marinus*	W.Atlantic	muscle	D	3.0	Windom et al. (1973b)
Silver perch *Bairdiella chrysura*	Florida		W	0.15	Boyle (1971)
Silver perch *Bairdella ronchus*	Mexico	liver	W	(0.174-3.20)	Baez et al. (1976)
" "	"	testis	W	(0.157-4.30)	"
" "	"	muscle	W	(0.45-3.54)1.20	"

Triggerfish Balistes fuscus	Hawaii	muscle	W	0.07	Klemmer et al. (1976)
Spotted wrasse Bodianus bilunulatus	"	muscle	W	0.05±SD 0.03	"
Lanternfish Bolinichthys indicus	Bermuda		D	0.16	Gibbs et al. (1974)
Bogue Boops boops	Mediterranean Sea		W	0.34	Cumont et al. (1972)
Gulf menhaden Brevoortia patronus	Gulf of Mexico	concentrate	D	0.51	Beasley (1971)
Atlantic menhaden Brevoortia tyrannus		"	D	0.34	"
" "	E. Canada	muscle	W	0.09±0.01	Freeman et al. (1974)
" "	W. Atlantic		D	(0.3-0.5)	Cocords et al. (1973)
Cusk Brosme brosme	E. Canada	muscle	W	0.11±0.01	Freeman et al. (1974)
" "	N.W. Atlantic	"	W	(0.27-0.49)	Greig et al. (1975)
" "	" "	liver	W	(0.23-0.83)	"
Parrotfish Calotomus sandwicensis	Hawaii	muscle	W	0.05±SD 0.04	Klemmer et al. (1976)
Silky shark Carcharhinus falciformis	Atlantic coast		W	(0.75-3.28) 1.43	(Beckett & Freeman) in Peterson et al. (1973)
" "	W.Atlantic	muscle	D	5.3	Windom et al. (1973b)
" "	"	liver	D	1.6	"
" "	"	kidney	D	3.3	"

Sandbar shark *Carcharhinus milberti*		muscle	D	1.0	Windom et al. (1973b)
" "		liver	D	0.4	"
Dusky shark *Carcharhinus obscurus*		muscle	D	4.2	"
" "		liver	D	3.3	"
" "		brain	D	2.9	"
Crevalle jack, yellow jack *Caranx hippos*	Florida		W	0.39	Ogden et al. (1974)
Golden toothless trevally *Caranx speciosus*	Thailand	muscle	W	<0.01	Huschenbeth & Harms (1975)
Snook *Centropomus sp.*	Mexico	"		(0.02-0.61)0.27 ±SD 0.24	Reimer & Reimer (1975)
Fat snook *Centropomus parallelus*	"	stomach content	W	(1.40-2.97)	Baez et al. (1976)
Snook *Centropomus undecimalis*	"	muscle	W	(0.08-1.7)0.69	"
" "	"	stomach content	W	(0.10-1.30)	"
Black sea bass *Centropristis striata*	N.W. Atlantic	muscle	W	0.08	Greig et al. (1975)
" "	"	liver	W	0.18	"
" "	W.Atlantic	muscle	D	0.8	Windom et al. (1973b)
Lanternfish *Ceratoscopelus warmingi*	Bermuda		D	(0.21-0.26)	Gibbs et al. (1974)
" "	W.Atlantic	muscle	D	0.2	Windom et al. (1973b)

Basking shark *Cetorhinus maximus*	Atlantic coast		W	(0.03-0.14) 0.08	(Baskett & Freeman) in Peterson et al. (1973)
Atlantic spadefish *Chaetodipterus faber*	Georgia			0.34	Mitre Corp. (1975)
Butterfly fish *Chaetodon multicinctus*	Hawaii	muscle	W	0.17	Klemmer et al. (1976)
Macrourid *Chalinura brevibarbis*	Cape Hatteras 1971 (depth 2500 m)	muscle	W	(0.38-0.45)	Barber et al. (1972)
Macrourid *Chalinura carapina*	Cape Hatteras 1971 (depth 2500 m)	"	W	0.36±0.02	"
Milkfish *Chanos chanos*	Hawaii	"	W	0.03±SD 0.01	Klemmer et al. (1976)
Rabbit fish *Chimaera monstrosa*	Norway		W	0.1	Lande (1977)
Shortnose greeneye *Chlorophthalmus agassizi* (=Bathysaurus agassizi)	Cape Hatteras, 1971 (depth 2500 m)	muscle	W	0.36±0.07	Barber et al. (1972)
Scarbreast tuskfish *Choerodon azurio*	Minamata Bay,1961	"	D	309.1	Fujiki (1963)
" "	"	liver	D	85.0	"
" "	"	heart	D	36.4	"
" "	"	gill	D	13.3	"
" "	"	digestive gland	D	1.3	"
Hawkfish *Cirrhitus alternatus*	Hawaii	muscle	W	0.32±SD 0.37	Klemmer et al. (1976)

Blenny *Cirripectus lincopunctatus*	Hawaii	muscle	W	0.00	Klemmer et al. (1976)
Gulf stream flounder *Citharichthys arctifrons*	N.W.Atlantic	"	W	0.05	Greig et al. (1975)
" "	" "	liver	W	ND	"
Atlantic herring *Clupea harengus*	Norway (before 1941)	muscle	W	(0.072-0.119)	Raeder & Snekvik (1941)
" "			W	(0.18-0.21) 0.19	Cumont et al. (1972)
" "	Canada	"	W	(0.03-0.06) 0.04	Fimreite et al. (1971)
" "	E.Canada	"	W	0.09±0.02	Freeman et al. (1974)
" "	Atlantic	concentrate	D	0.60	Beasley (1971)
" "	N.W.Atlantic	muscle	W	(<0.05-0.09)	Greig et al. (1975)
" "	" "	liver	W	(0.26-0.28)	"
" "		(107 FDA analyses)	W	0.07±0.01	Simpson et al. (1974)
" "	Norway	muscle	D	0.16	Andersen & Neelakantan (1974)
" "	"		W	0.1	Lande (1977)
" "	Netherlands		W	(0.15-0.22)	Koeman et al. (1971)
" "	Canada, Atlantic coast	muscle	W	0.363	Sprague & Carson (1970)
" "	Scotland		W	(<0.01-0.08)	Holden (1972)

Atlantic herring *Clupea harengus*	Baltic Sea	muscle	W	(0.026-0.041)	Christell et al. (1975)
" "	Delaware Bay	"	W	(0.073-0.194) 0.104±SD 0.045	Gerhart (1977)
" "				(0.0-0.1)	Peyton et al. (1975)
" "	Massachusetts (concentrate)		D	0.6	Beasley (1971)
Pacific saury *Cololabis saira*	California		W	(0.008-0.011) 0.009	Knauer & Martin (1972)
" "	Japan			(0.09-0.21)	Doi & Ui (1973)
Conger eel *Conger conger*	Atlantic		W	(0.14-0.24)0.19	Cumont et al. (1972)
" "	"	muscle	W	0.14	"
" "	"	liver	W	0.09	"
" "	"	kidney	W	0.08	"
" "	Mediterranean Sea	muscle	W	0.51	"
" "	"	liver	W	0.9	"
" "	"	kidney	W	0.62	"
" "	N.W.Atlantic		D	0.12	Windom (1972)
Conger eel *Conger marginatus*	Hawaii	muscle	W	0.32	Klemmer et al. (1976)
Dolphin *Coryphaena hippuris*	S. Carolina		W	0.2	Boyle (1971)
" "	Hawaii	muscle	W	(0.17-0.31)0.25	Rivers et al. (1972)

Dolphin *Coryphaena hippuris*				(0.11-0.25)	Peyton et al. (1975)
Fourhorn sculpin *Cottus quadricornis*	Gulf of Bothnia Finland		W	0.68±SE 0.05	Koivusaari et al. (1976)
Grenadier *Coryphaenoides rupestris* (=Macrurus rupestris)	Norway		W	0.1	Lande (1977)
Surgeonfish *Ctenochaetus strigosus*	Hawaii	muscle	W	0.03±SD 0.03	Klemmer et al. (1976)
Lumpfish *Cyclopterus lumpus* (=Lumpus cyclopterus)	E. Canada	"	W	0.06±0.05	Freeman et al. (1974)
Spotted seatrout *Cynoscion nebulosus*	S. Carolina		W	0.10	Boyle (1971)
" "	Louisiana		W	2.2	"
" "	Florida		W	0.4	"
" "				(0.46-0.65)	Peyton et al. (1975)
" "	W. Atlantic	muscle	D	1.5	Windom et al. (1973b)
" "	Georgia			(0.81-1.66)	Mitre Corp. (1975)
Round scad *Decapterus punctatus*	W. Atlantic	"	D	0.4	Windom et al. (1973b)
Lanternfish *Diaphus dumerilii*	N.W. Africa		D	0.12	Leatherland et al. (1973)
Lanternfish *Diaphus mollis*	Bermuda		D	0.11	Gibbs et al. (1974)
" "	W. Atlantic	muscle	D	0.1	Windom et al. (1973b)

California headlightfish *Diaphus theta*	California		W	(0.032-0.078) 0.06	Knauer & Martin (1972)
Diodon hystrix	Hawaii	muscle	W	0.19 ± SD 0.05	Klemmer et al. (1976)
Porgy *Diplodus annularis*	Adriatic Sea		W	2.61	Strohal & Dzajo (1971)
Goby *Electris sandwicensis*	Hawaii	muscle	W	0.08	Klemmer et al. (1976)
Anchovy *Engraulis encrasicolus*	Adriatic Sea		D	1.44	Vucetic et al. (1974)
" "	California	skin	W	0.01	Knauer (1972)
" "	"	muscle	W	0.04	"
" "	"	liver	W	0.09	"
" "	Adriatic Sea	skin	W	(ND-0.2)	Gilmartin & Revelante (1975)
" "	"	muscle	W	(0.07-0.215)	"
" "	"	liver	W	(0.215-0.415)	"
" "	"	kidney	W	(0.295-0.610)	"
" "	"		W	0.403	Strohal & Dzajo (1971)
Northern anchovy *Engraulis mordax*	California	concentrate	D	0.44	Beasley (1971)
" "	"		W	(0.055-0.076) 0.063	Knauer & Martin (1972)
" "	"	muscle	W	(0.011-0.08) 0.04	"
" "	"	liver	W	(0.038-0.075) 0.053	"

Northern anchovy *Engraulis mordax*	California	kidney	W	(0.029-0.066) 0.0465	Knauer & Martin (1972)
Petrale sole *Eopsetta jordani*	Oregon		W	(0.05-0.32)0.114	Childs & Gaffke (1973)
Rock hind *Epinephelus adscensionis*	Bahamas & Florida	liver		0.14	Taylor & Bright (1973)
Grouper, Coney *Epinephelus cruentatus*	"	muscle		(0.02-0.77)	"
" "	"	stomach		(0.07-0.19)	"
" "	"	liver		3.42	"
Jewfish *Epinephelus itaiara*	"	muscle		0.69	"
Red grouper *Epinephelus morio*	"	"		(0.17-0.97)	"
Nassau grouper, hamlet *Epinephelus striatus*	"	"		(0.07-0.32)	"
" "	"	liver		(0.32-1.29)	"
Priest shark *Etmopterus spinax*	N.W. Africa	"	D	(0.04-0.18)	Leatherland et al.(1973)
" "	Norway		W	0.4	Lande (1971)
Round herring *Etrumeus teres*	N.W. Atlantic	whole	W	<0.05	Greig et al. (1975)
Little tunny *Euthynnus alletteratus*	"	muscle	D	1.4	Windom (1972)
" "	"	liver	D	1.1	"

Black skipjack *Euthynnus lineatus*	N.E. Pacific		D	(0.32-0.8) 0.59	Kishore & Guinn (1972)
" "			W	(0.14-0.25)0.19	"
Yellowfin tuna *Euthynnus macropterus*	Pacific Ocean	muscle	W	(0.26-0.96)	Nishigaki et al. (1973)
Skipjack tuna *Euthynnus pelamis* (=Katsuwonus pelamis)	Pacific		D	0.62±SD 0.1	Miller et al. (1972)
" "	"		W	0.18±SD 0.03	"
" "	"			(0.11-0.2)	Doi & Ui (1973)
" "	(1879-1909)		W	(0.26-0.64)	Miller et al. (1972)
" "	Atlantic & Indian Ocean	muscle	W	(0.05-0.7)0.21	Cumont et al. (1972)
" "	Hawaii		W	(0.27-0.52)0.38	Rivers et al. (1972)
" "	Imported	936 FDA analyses	W	0.2±0.085	Simpson et al. (1974)
" "	Domestic	149 " "	W	0.16±0.078	"
" "	Massachusetts 1878		W	(0.27-0.64)	Miller et al. (1972)
" "	"		D	(0.91-1.51)	"
" "	California 1890		W	1.45±SD 0.02	"
" "	"		D	1.05±SD 0.04	"
" "	Hawaii, 1901		W	0.42±SD 0.02	"
" "	"		D	0.92±SD 0.01	"
" "	Philippine Isl. 1909		W	0.26±SD 0.01	"

Skipjack tuna *Euthynnus pelamis* (=Katsuwonus pelamis)	Philippine Isl. 1909		D	0.53±SD 0.02	Miller et al. (1972)
" "	N.E. Pacific	muscle	D	(0.47-0.98)0.65	Kishore & Guinn (1972)
" "	Dakar			0.2	Aldrin et al. (1973)
Grass puffer *Fugu niphobles* (=Sphoeroides niphobles)	Minamata Bay, 1961	muscle	D	(15.0-26.0)	Matida & Kumada (1969)
Atlantic cod *Gadus morhua*			W	(0.05-0.2)0.076	Cumont et al. (1972)
" "	Norway	muscle	D	(0.1-0.4)	Stenner & Nickless (1974)
" "	"	"	W	(0.022-0.079)	Noren & Westoo (1967)
" "	"	"	D	0.71	Andersen & Neelakantan (1974)
" "	"	"	W	(0.05-1.46)	Underdal (1969)
" "		muscle (170 FDA analyses)	W	0.09±0.04	Simpson et al. (1974)
" "			W	(0.105-0.11)	Stock & Cucuel (1934)
" "	Great Britain		W	0.26	Portmann (1972)
" "	North Sea		W	0.11	"
" "			W	0.09	"
" "		spawn	W	0.048	Raeder & Snekvik (1948)

Atlantic cod *Gadus morhua*		milt	W	0.18	Raeder & Snekvik (1948)
" "		liver	W	0.044	"
" "	Netherlands			0.18	Greve & Wit (1971)
" "	Denmark	muscle	W	0.04	Noren & Westoo (1967)
" "	"	"	W	(0.141-1.29)	Dalgaard-Mikkelsen (1969)
" "	Norway (before 1941)	muscle	W	(0.044-0.063)	Raeder & Snekvik (1941)
" "	Sweden	"	W	(0.245-2.70)	Henricksson (1968)
" "	Norway (below pulp mill)	"	W	(0.12-3.18)	Underdal & Hastein (1971)
" "	Sweden	"	W	(0.026-0.036)	Westoo (1967)
" "	"	"	W	(0.032-2.7)	Johnels et al. (1967)
" "	N.W. Atlantic	"	W	(0.14-0.25)	Greig et al. (1973)
" "	"	liver	W	(0.11-0.20)	"
" "	E. Canada	muscle	W	(0.129-0.428)	Sprague & Carson (1970)
" "	" "	"	W	(0.13-0.2)	Freeman et al. (1974)
" "	N.W. Atlantic	"	W	(0.08-0.33) 0.19±SD 0.08	Zook et al. (1976)
" "	Iceland	"	W	(0.04-0.14) 0.08±SD 0.03	"

Atlantic cod *Gadus morhua*	Norway		W	0.2	Lande (1977)
Rock cod, torsk *Gadus morhua callarius* (=*Gadus callarius*)		muscle	D	0.24	Leatherland & Burton (1974)
Blackmouthed dogfish *Galeus melastomus*	Norway		W	0.7	Lande (1977)
Witch flounder *Glyptocephalus cynoglossus*	Norway		W	0.2	Lande (1977)
" "	N.W. Atlantic	muscle	W	(0.07-0.10)	Greig et al. (1975)
" "	"	liver	W	(0.13-0.16)	"
Rex sole *Glyptocephalus zachirus*	Washington-Oregon	muscle	D	(0.16-1.5)0.46	Robertson et al. (1972)
" "	Oregon		W	(0.05-0.24) 0.119	Childs & Gaffke (1973)
Largescale blackfish *Girella punctata*	Minamata Bay, 1961	viscera	D	(18.0-27.0)	Matida & Kumada (1969)
" "	" "	muscle	D	(12.0-20.0)	"
Moray eel *Gymnothorax eurostus*	Hawaii		W	0.31	Klemmer et al. (1976)
Blackbelly rosefish *Helicolenus dactylopterus* (=*Sebastes dactylopterus*)		muscle	W	0.22	Greig et al. (1975)
" "		liver	W	0.40	"
" "			W	(0.12-0.36)0.25	Cumont et al. (1972)
Sea raven *Hemitripterus americanus*	E. Canada	muscle	W	0.03	Freeman et al. (1974)

American plaice *Hippoglossoides platessoides*	E. Canada		W	0.14±0.02	Freeman et al. (1974)
" "				0.14	Sprague & Carson (1970)
Pacific halibut *Hippoglossus stenolepis*	Washington		W	(0.06-1.52)	Simpson et al. (1974)
" "	Alaska		W	(0.12-0.92)0.39	"
" "	Gulf of Alaska	muscle	W	(0.14-0.52)0.34 ±SD 0.13	Zook et al. (1976)
" "	Canada		W	(0.02-1.1)	Simpson et al. (1974)
" "	Japan		W	(0.03-0.42)	"
Atlantic halibut *Hippoglossus hippoglossus*	Norway	muscle	W	0.075	Noren & Westoo (1967)
" "				(0.11-0.25)	Peyton et al. (1975)
" "	E. Canada	muscle	W	0.2±0.03	Freeman et al. (1974)
Squirrelfish *Holocentrus diadema*	Hawaii	"	W	0.31±SD 0.22	Klemmer et al. (1976)
Hoplognathus fasciata	Minamata Bay, 1961	"	D	14.2	Fujiki (1963)
" "	" "	liver	D	16.0	"
" "	" "	heart	D	6.3	"
" "	" "	gill	D	2.3	"
Lanternfish *Hygophum hygomi*	Bermuda		D	(0.18-0.31)	Gibbs et al. (1974)

Lanternfish Hygophum hygomi	W.Atlantic	muscle	D	0.3	Windom et al. (1973b)
Lanternfish Hygophum macrochir	N.W. Africa		D	0.25	Leatherland et al.(1973)
Sea goblin Inimicus punctatus	Minamata Bay, 1961	muscle	D	9.5	Matida & Kumada (1969)
Dotted gizzard shad Konosirus punctatus	" "	"	D	(1.0-9.5)	"
" "	Tateyama Bay, Japan 1961	"	D	0.0	"
White bass Kuhlia sandvicensis	Hawaii	"	W	0.12±0.09	Klemmer et al. (1976)
Rudderfish Kyphosus cinerascens	"	"	W	0.06±SD 0.07	"
Hogfish Lachnolaimus maximus	Florida	"		0.39	Taylor & Bright (1973)
Pinfish Lagodon rhomboides	"		W	(0.06-0.12)	Ogden et al. (1974)
Porbeagle Lamna nasus (=Lamna cornubica)	N.W. Atlantic		W	(0.62-5.43)2.08	Beckett & Freeman in Peterson et al. (1973)
" "			W	(0.16-1.8)0.79	Cumont et al. (1972)
Lanternfish Lampanyctus photonotus	Bermuda		D	(0.16-0.21)	Gibbs et al. (1974)
Lepidophanes indicus	W.Atlantic	muscle	D	0.2	Windom et al. (1973b)

Lanternfish Lampanyctus pusillus	Bermuda		D	0.34	Gibbs et al. (1974)
" "	W.Atlantic	muscle	D	(0.2-0.3)	Windom et al. (1973b)
Greater ponyfish Leiognathus equulus	Thailand	"	W	0.03	Huschenbeth & Harms (1975)
Spot Leiostomus xanthurus	Georgia			(0.04-1.31) 0.3±SD 0.31	Mitre Corp. (1975)
" "	N.W.Atlantic	muscle	W	<0.05	Greig et al. (1975)
" "	" "	liver	W	<0.05	"
Yellowfin emperor Lenthrinus choerorhynchus	China Sea	muscle		0.98	Suzuki et al. (1973)
Fawn cusk-eel Lepophidium cervinum	N.W.Atlantic	"	W	0.11	Greig et al. (1975)
" "	"	liver	W	0.19	"
Ides Leuciseus idus	Gulf of Bothnia, Finland	muscle	W	0.27±SE 0.05	Koivusaari et al. (1976)
Yellowtail flounder Limanda ferruginea	N.W.Atlantic	"	W	(0.02-0.15) 0.07±SD 0.05	Zook et al. (1976)
" "	"	"	W	(0.10-0.24)	Greig et al. (1975)
" "	"	liver	W	(0.17-0.25)	"
Sand dab, limande Limanda limanda (=Pleuronectes limanda)			W	(0.06-0.13)0.09	Cumont et al. (1972)

Sand dab, limande *Limanda limanda* (=Pleuronectes limanda)	Thames Estuary		W	(0.06-0.54)0.22	Anonymous (1971a)
" "	Norway		D	0.65	Stenner & Nickless (1974)
Lanternfish *Lobianchia dofleini*	Bermuda		D	(0.2-0.27)	Gibbs et al. (1974)
" "	W.Atlantic	muscle	D	0.2	Windom et al. (1973b)
Angler fish *Lophius piscatorius*			W	(0.08-0.53)0.22	Cumont et al. (1972)
Daubed shanny *Lumpenus maculatus*	N.W.Atlantic	whole	W	0.05	Greig et al. (1975)
Mutton snapper *Lutjanus analis*	Key West	muscle		0.39	Taylor & Bright (1973)
Red snapper *Lutjanus campechanus*				(0.26-0.45)	Peyton et al. (1975)
" "	Florida & Bahama Isl.			(0.2-0.94)	Taylor & Bright (1973)
" "	Gulf of Mexico	muscle	W	(0.28-1.46) 0.60±SD 0.32	Zook et al. (1976)
Gray snapper *Lutjanus griseus*	Florida		W	0.13	Ogden et al. (1974)
Blueline perch *Lutjanus kasmira*	Hawaii	muscle	W	0.22	Klemmer et al. (1976)

Slender sole *Lyopsetta exilis*	Oregon	muscle	D	(0.004-0.37)0.2	Robertson et al. (1972)
Ocean pout *Macrozoarces americanus*	Massachusetts	concentrate	D	0.42	Beasley (1971)
" "	Mississippi	"	D	0.51	"
" "	NW Atlantic	muscle	W	(<0.05-0.11)	Greig et al. (1975)
Black marlin *Makaira indica*	Pacific Ocean	muscle	W	(0.59-4.3)	Nishigaki et al. (1973)
" "	N.E. Australia	"	W	(0.5-16.5)7.3 ±SE 0.596	Mackay et al. (1975)
" "	"	liver	W	(0.3-63.0)10.4 ±SE 1.96	"
Blue marlin *Makaira nigricans* (=Makaira ampla)	Hawaii	muscle	W	(0.35-14.0)4.78	Rivers et al. (1972)
" "	"	liver	W	(0.39-36.0)7.57	"
Haddock *Melanogrammus aeglefinus* (=Gadus aeglefinus)	Great Britain		W	(0.06-0.07)	Anonymous (1971a)
" "	Scotland		W	(0.03-0.18)	Holden (1972)
" "	E. Canada		W	0.12±0.04	Freeman et al. (1974)
" "	Netherlands			0.17	Greve & Wit (1971)
" "	Sweden	muscle	W	(0.033-0.052)	Westoo (1967)
" "	Norway (before 1941)	"	W	0.141	Raeder & Snekvik (1941)

Haddock *Melanogrammus aeglefinus* (=Gadus aeglefinus)		(179 FDA analyses)	W	0.04±0.01	Simpson et al. (1974)
" "	Norway	muscle (methyl Hg)	W	(0.014-0.042)	Noren & Westoo (1967)
" "	Scotland	muscle	W	(0.06-0.22)	Bligh (1968)
" "	United States	"	W	(0.017-0.023)	Pappas & Rosenberg (1966)
" "	N.W.Atlantic	"	W	(<0.05-0.09)	Greig et al. (1975)
" "	"	liver	W	<0.05	"
" "				(0.0-0.1)	Peyton et al. (1975)
" "	Norway		W	0.1	Lande (1977)
Southern kingfish *Menticirrhus americanus*	South Carolina		W	0.15	Boyle (1971)
Whiting *Merlangius merlangus*	Atlantic		W	(0.03-0.12)0.07	Cumont et al. (1972)
" "	Norway		W	<0.1	Lande (1977)
" "	Mediterranean		W	0.2	Cumont et al. (1972)
" "	Thames Estuary		W	(0.15-0.83)0.45	Anonymous (1971a)
Silver hake *Merluccius bilinearis*		(133 FDA analyses)	W	0.06±0.06	Simpson et al. (1974)
" "	Delaware Bay	muscle	W	(0.036-0.06) 0.046±SD 0.01	Gerhart (1977)
" "	E. Canada	"	W	0.06±0.02	Freeman et al. (1974)

Silver hake *Merluccius bilinearis*	N.W.Atlantic	muscle	W	0.09	Greig et al. (1975)
" "	"	liver	W	0.10	"
European hake *Merluccius merluccius*	Atlantic		W	(0.06-0.36)0.2	Holden (1972)
" "	Scotland		W	(0.02-0.08)	"
" "	North Sea	muscle	W	(0.038-0.055)	Stock & Cucuel (1934)
" "	Denmark	muscle (methyl Hg)	W	0.036	Noren & Westoo (1967)
" "	Netherlands			0.07	Greve & Wit (1971)
Pacific hake *Merluccius productus*	Oregon		W	(0.06-0.18) 0.102	Childs & Gaffke (1973)
Atlantic tomcod *Microgadus tomcod*	New Brunswick Canada	muscle	W	0.18	Fimreite et al. (1971)
Atlantic croaker *Micropogon undulatus*	Georgia			(0.05-1.2)0.45 ±SD 0.042	Mitre Corp (1975)
Lemon sole *Microstomus kitt*	Scotland			(0.03-0.11)	Holden (1972)
Dover sole *Microstomus pacificus*	Oregon	muscle	D	0.29	Robertson et al. (1972)
" "	"	"	W	0.051	"
Ling *Molva molva*	Norway		W	(0.15-0.86)	Underdal & Hastein (1971)
" "			W	0.55	Cumont et al. (1972)

Planehead filefish *Monacanthus hispidus* (=Stephanolepsis hispidus)	W. Atlantic	whole	W	<0.11	Greig et al. (1976)
Bar, sea bass *Morone labrax*	Mediterranean		W	0.54	Cumont et al. (1972)
" "	Atlantic		W	(0.09-0.23)0.16	"
" "	Great Britain	muscle	D	1.8	Leatherland & Burton (1974)
Striped bass *Morone saxatilis*	Chesapeake Bay		W	(0.08-0.22) 0.13	Bender et al. (1972)
" "	Hudson River			0.34	Boyle (1971)
" "	Rappahannock River			0.2	"
" "	California			0.7	"
" "	N.W.Atlantic	muscle	D	4.5	Windom et al. (1973b)
" "	Potomac, 1859		W	0.114	Kerfoot & White (1963)
" "	Boston fish market,1871		W	0.053-0.195	"
" "	Troy, New York, 1881		W	0.115	"
" "	Cape Cod Bay 1955		W	(0.045-0.07)	"
" "	" " " 1958		W	(0.055-0.065)	"
" "	Back River, Mass, 1958		W	(0.055-0.160)	"
" "	Woods Hole, 1971		W	(0.08-0.650)	"
" "	Long Island Sound	muscle	W	0.105	Zawacki & Briggs (1976)
" "	" " "	"	D	0.335	"

Striped mullet *Mugil cephalus*	Hawaii		W	<0.05	Rivers et al. (1972)
" "	N.W. Atlantic		D	0.09	Windom et al. (1973b)
" "	Japan, Matsushima Bay, 1961	muscle	D	0.4	Matida & Kumada (1969)
" "				(0.11-0.25)	Peyton et al. (1975)
" "	Georgia			(0.1-0.17)0.1	Mitre Corp. (1975)
" "	Hawaii		W	0.03±SD 0.03	Klemmer et al. (1976)
White mullet *Mugil curema*	E. Mexico			(0.01-0.1)0.04 ±SD 0.02	Reimer & Reimer (1975)
" "	Mexico	muscle	W	(0.22-1.7)	Baez et al. (1976)
Silver mullet *Mugil engeli*	Hawaii	"	W	0.01±SD 0.02	Klemmer et al. (1976)
Silver mullet *Mugil sp.*	Florida		W	0.07	Ogden et al. (1974)
" "	Spain & Portugal	muscle	D	0.08	Stenner & Nickless (1975)
Gold striped goatfish *Mulloidichthys auriflamma*	Hawaii		W	<0.05	Rivers et al. (1972)
Goatfish *Mulloidichthys samoensis*	"	Muscle	W	0.09±SD 0.11	Klemmer et al. (1976)
Smooth dogfish *Mustelus canis* (=*Galeus canis*)			W	(0.26-0.4)0.33	Cumont et al. (1972)

Smooth hound *Mustelus mustelus* (=Mustelus laevis)	Spain & Portugal	muscle	D	0.43	Stenner & Nickless (1975)
Gag *Mycteroperca microlepis*	Florida	"		(0.19-0.99)	Taylor & Bright (1973)
Scamp *Mycteroperca phenax*	Gulf of Mexico	muscle		(0.25-0.43)0.33	"
" "	Gulf of Mexico & Bahama Isl.	"		(0.07-0.57)	"
" "	" " "	liver		(0.28-2.42)	"
Tiger grouper *Mycteroperca tigris*	" " "	muscle		(0.07-1.05)	"
" "	" " "	liver		1.69	"
Longhorn sculpin *Myoxocephalus octodecemspinosus*	N.W. Atlantic	muscle	W	(0.08-0.09)	Greig et al. (1975)
" "	" "	liver	W	(0.09-0.16)	"
Squirrel fish *Myripristis argyromus*	Hawaii	muscle	W	(0.10-0.43) 0.21	Rivers et al. (1972)
" "	"	"	W	0.39±SD 0.18	Klemmer et al. (1976)
Squirrelfish *Myripristis berndti*	"	"	W	0.18	"
Diamond-scale mullet *Neomyxus chaptelii*	"	"	W	0.03±SD 0.04	"
Yellowfin tuna *Neothunnus macropterus*	"		W	(0.24-1.32)0.54	Rivers et al. (1972)
" "	Imported	(135 FDA analyses)	W	0.17±0.097	Simpson et al. (1974)
" "	Domestic	(288 FDA analyses)	W	0.21±0.12	"

Yellowfin tuna *Neothunnus macropterus*	Pacific Ocean	muscle	W	(0.26-0.96)	Nishigaki et al. (1973)
" "		25 kg		0.25	Peterson et al. (1973)
" "		50 kg		0.5	"
" "		>60 kg		1.0	"
Lanternfish *Notoscopelus caudispinosus*	Bermuda		D	0.24	Gibbs et al. (1974)
" "	W. Atlantic	muscle	D	0.2	Windom et al. (1973b)
Shrimp eel *Ophichthus gomesi*	W. Atlantic	muscle	D	0.6	"
Palespotted eel *Ophichthus ocellatus*	"	"	D	1.3	"
Lingcod *Ophiodon elongatus*	Canada	muscle	W	(0.08-0.27)	Fimreite et al. (1971)
" "	Oregon		W	(0.06-0.73) 0.351	Childs & Gaffke (1973)
Sea bream *Pagellus bogaraves* (=Pagellus centrodontus)	Atlantic Ocean		W	(0.06-0.27)0.18	Cumont et al. (1972)
" "	"	muscle	W	(0.2-0.27)	"
" "	"	liver	W	(0.28-0.5)	"
" "	"	kidney	W	(0.2-0.71)	"
Sea bream *Pagellus erythrinus*	Mediterranean	muscle	W	0.39	"
" "	"	liver	W	1.16	"
" "	"	kidney	W	2.0	"

Sea bream Pagellus sp.	New Zealand	muscle (methyl-Hg)	W	0.11	Sumino (1968)
" "	S. Pacific Ocean	"	W	0.008	"
" "	Africa	"	W	0.022	"
Red tai, porgy Pagrus major (=Pagrosomus major)	Minamata Bay, 1961	muscle	D	(9.0-13.0)	Matida & Kumada (1969)
" "	New Zealand		W	0.11	Ui (1971)
Summer flounder Paralichthys dentatus	Delaware Bay	muscle	W	(0.052-0.155) 0.096±SD 0.044	Gerhart (1977)
Fourspot flounder Paralichthys oblongus	N.W. Atlantic	muscle	W	(ND-0.16)	Greig et al. (1975)
" "	"	liver	W	(0.23-0.27)	"
Grund Parapristipoma trilineatum	South Pacific		W	(0.04-0.47)	Ui (1971)
English sole Parophrys vetulus	Oregon	muscle	D	(0.15-0.74)0.45	Robertson et al. (1972)
" "	"		W	(0.017-0.028)	Cutshall & Holton (1972)
Goatfish Parupeneus chryserydros	Hawaii	muscle	W	0.03±SD 0.04	Klemmer et al. (1976)
Goatfish Parupeneus multifasciatus	Hawaii	"	W	0.04±SD 0.03	"
Goatfish Parupeneus pleurostigma	"	"	W	0.12±SD 0.08	"
Goatfish Parupeneus porphyreus	"	"	W	0.09±SD 0.08	"

Butterfish Peprilus triacanthus	N.W.Atlantic	whole	W	0.06	Greig et al. (1975)
European flounder Platichthys flesus (=Pleuronectes flesus)	Great Britain	muscle	D	0.15	Leatherland & Burton (1974)
" "	Sweden	"	W	(0.05-0.86)	Henricksson (1968)
" "	Netherlands		W	0.21	Koeman et al. (1971)
" "	"			0.09	Greve & Wit (1971)
" "	Norway		D	0.24	Andersen & Neelakantan (1974)
" "	"	"	W	(0.13-0.68)	Underdal (1969)
" "		(156 FDA analyses)	W	0.08±0.03	Simpson et al. (1974)
" "	British Columbia			(1.0-1.42)	Bligh (1971)
" "				(0.06-0.17)	Jervis et al. (1970)
" "		muscle		0.02	McDuffie (1971)
" "	Denmark	"	W	(0.032-0.893)	Dalgaard & Mikkelsen (1969)
" "	E. Canada	"	W	(0.123-0.344)	Sprague & Carson (1970)
Starry flounder Platichthys stellatus	Oregon		W	(0.08-0.5)0.235	Childs & Gaffke (1973)
" "	Thames Estuary		W	(0.08-2.5)0.74	Anonymous (1971a)

Starry flounder *Platichthys stellatus*	Great Britain		W	(0.39-1.1)0.8	Anonymous (1971a)
" "	Washington		W	(0.33-0.841) 0.56±SD 0.202	Buhler et al. (1973)
Flathead *Platycephalus bassensis*			Hg level correlated with size		Leland et al. (1976)
Plaice *Pleuronectes platessa*	Sweden	muscle	W	(0.07-3.10)	Henricksson (1968)
" "	Netherlands		W	0.5	Koeman et al. (1971)
" "	Baltic		W	(0.03-0.076)	Ackefors et al. (1970)
" "	Mediterranean		W	(0.09-0.6) 0.048	Cumont et al. (1972)
" "	Denmark	muscle	W	(0.035-0.042)	Noren & Westoo (1967)
" "	"	"	W	(0.038-0.496)	Dalgaard & Mikkelsen (1969)
" "	Sweden	"	W	(0.031-3.1)	Johnels et al. (1967)
" "	Thames Estuary	"	W	(0.1-1.4)0.37	Anonymous (1971a)
" "	Great Britaim	"	W	0.58	"
" "	Mediterranean	"	W	0.48	Cumont et al. (1972)
" "	"	liver	W	0.52	"
" "	"	kidney	W	0.36	"
" "	Great Britaim		W	0.25	Portmann (1972)

Plaice Pleuronectes platessa	North Sea		W	0.08	Portmann (1972)
" "	Great Britain		W	(0.03-0.13)	Holden (1972)
Striped catfish eel Plotosus anguillaris	Minamata Bay, 1961	muscle	D	0.9	Fujiki (1963)
" "	"	liver	D	6.9	"
" "	"	heart	D	9.8	"
" "	"	gill	D	4.2	"
" "	"	digestive gland	D	1.0	"
Pollock Pollachius pollachius	Norway		W	(0.34-0.76)	Underdal & Hastein (1971)
" "			W	(0.024-0.11) 0.073	Cumont et al. (1972)
Pollock Pollachius virens (=Gadus virens)	Norway		W	(0.24-0.52)	Underdal & Hastein (1971)
" "	E. Canada	muscle	W	0.08±0.03	Freeman et al. (1974)
" "	N.W. Atlantic	"	W	(0.08-0.10)	Greig et al. (1975)
" "	" "	liver	W	(<0.05-0.06)	"
" "				0.088	Raeder & Snekvik (1941)
Barber Polydactylus virginicus (=Polynemus virginicus)	E. Mexico			(0.05-0.11)0.07	Reimer & Reimer (1975)

Beardfish *Polymixia lowei*	N.W. Atlantic	whole	W	0.06	Greig et al. (1975)
Damselfish *Pomacentrus jenkinsi*	Hawaii	muscle	W	0.04±SD 0.05	Klemmer et al. (1976)
Bluefish *Pomatomus saltatrix*	S. Carolina		W	0.31	Boyle (1971)
" "	W. Atlantic	muscle	D	0.9	Windom et al. (1973b)
" "	Long Island	"		0.5	in Leland et al.(1975)
" "	" "	"	W	0.013	Zawacki & Briggs (1976)
" "	" "	"	D	0.106	"
Big red-eye *Priacanthus cruentatus*	Hawaii	muscle	W	0.05±SD 0.04	Klemmer et al. (1976)
Northern sea robin *Prionotus carolinus*	N.W.Atlantic	"	W	0.35	Greig et al. (1975)
" "	"	liver	W	0.56	"
" "	Delaware Bay	muscle	W	(0.018-0.168) 0.089±SD 0.075	Gerhart (1977)
Striped sea robin *Prionotus evolans*	N.W.Atlantic	"	W	0.35	Greig et al. (1975)
" "	"	liver	W	0.38	"
Crimson snapper, wenchman *Pristipomoides seiboldii*	Africa		W	0.022	Ui (1971)
Sand sole *Psettichthys melanostictus*	Oregon	muscle	W	(0.046-0.058)	Cutshall & Holton (1972)
Pseudantis elongatus	S. Pacific		W	0.008	Ui (1971)

Winter flounder *Pseudopleuronectes americanus*	New Brunswick Canada	muscle	W	(0.86-1.33)1.1	Fimreite et al. (1971)
" "	N.W. Atlantic	"	W	(0.07-0.14)	Greig et al. (1975)
" "	"	liver	W	(0.08-0.18)	"
" "	Delaware Bay	muscle	W	(0.023-0.106) 0.057±SD 0.029	Gerhart (1977)
Winter skate *Raja binoculata*	N.W.Atlantic	"	W	0.15	Greig et al. (1975)
" "	" "	liver	W	0.18	"
Thornback ray *Raja clavata*	Spain & Portugal	muscle	D	0.53	Stenner & Nickless (1975)
Clearnose skate *Raja eglanteria*	Delaware Bay	muscle	W	(0.119-0.321) 0.214±SD 0.098	Gerhart (1977)
" "	W. Atlantic	"	D	1.3	Windom et al. (1973b)
" "	"	liver	D	0.5	"
Little skate *Raja erinacea*	N.W. Atlantic	muscle	W	(0.13-0.16)	Greig et al. (1975)
" "	" "	liver	W	(0.10-0.23)	"
Thorny skate *Raja radiata*	E. Canada	muscle	W	0.26±0.14	Freeman et al. (1974)
" "	N.W. Atlantic	"	W	(0.21-0.26)	Greig et al. (1975)
" "	" "	liver	W	(0.09-0.15)	"
Atlantic guitarfish *Rhinobatos lentiginosus*	W. Atlantic	muscle	D	1.2	Windom et al. (1973b)

Atlantic guitarfish *Rhinobatos lentiginosus*	W. Atlantic	liver	D	0.4	Windom et al. (1973b)
Cownose ray *Rhinoptera bonasus*	"	muscle	D	1.0	"
" "	"	liver	D	0.8	"
" "	"	brain	D	0.3	"
Atlantic bonito *Sarda sarda*		(41 FDA analyses)	W	0.3±0.04	Simpson et al. (1974)
Sardine, pilchard *Sardina pilchardus* (=*Clupea pilchardus*)	Atlantic		W	(0.02-0.04) 0.026	Cumont et al. (1972)
" "	Adriatic Sea		D	3.19	Vucetic et al. (1974)
" "	"	muscle	W	(0.04-0.135)	Gilmarten & Revelante (1975)
" "	"	liver	W	(0.155-0.215)	"
" "	"	kidney	W	(0.22-0.455)	"
" "		(104 FDA analyses)	W	0.02±0.01	Simpson et al. (1974)
" "	Spain & Portugal	muscle	D	0.06	Stenner & Nickless (1975)
Salema, sarp *Sarpa salpa* (=*Boops salpa*)	Tyrrhenian Sea	muscle	W	0.11	Renzoni et al. (1974)
Longer lizardfish *Saurida elongata*	Thailand	"	W	0.10	Huschenbeth & Harms (1975)
Lizardfish *Saurida sp.*	"	"	W	0.02	"

Chub mackerel Scomber japonicus	Japan			(0.06-0.29)	Ui (1971)
Atlantic mackerel Scomber scombrus	Netherlands			(0.22-0.59)	Greve & Wit (1971)
" "	Norway	muscle	W	0.06	Raeder & Snekvik (1941)
" "	Netherlands	canned muscle		0.34	Greve & Wit (1971)
" "	"	"		(0.053-0.08)	DeGoeij & Zegers (1971)
" "	E. Canada	muscle	W	0.09±0.05	Freeman et al. (1974)
" "	Japan	canned muscle	W	0.05	McDuffie (1971)
" "	Atlantic Ocean		W	(0.015-0.16) 0.07	Cumont et al. (1972)
" "	Long Island		W	0.1	Boyle (1971)
" "		(140 FDA analyses)	W	0.12±0.11	Simpson et al. (1974)
" "	Great Britain	muscle	D	0.09	Leatherland & Burton (1974)
" "	Adriatic Sea		D	0.8	Vucetic et al. (1974)
" "	N.W. Atlantic	muscle	W	0.08	Greig et al. (1975)
" "	" "	liver	W	ND	"
Spanish mackerel Scomberomorus maculatus	S. Carolina		W	0.57	Boyle (1971)
" "	NW Atlantic		W	0.1	Windom (1972)

Spanish mackerel *Scomberomorus maculatus*	W. Atlantic	muscle	D	0.4	Windom et al. (1973b)
Atlantic saury *Scomberesox saurus*	N.W. Africa	"	D	0.2	Leatherland et al. (1973)
" "	"	heart	D	0.21	"
" "	"	liver	D	0.22	"
" "	"	whole	D	(0.072-0.16)	"
Windowpane flounder *Scophthalmus aquosus*	N.W. Atlantic	muscle	W	0.10	Greig et al. (1975)
" "	" "	liver	W	0.12	"
" "	Delaware Bay		W	(0.251-0.666) 0.149±SD 0.081	Gerhart (1977)
" "	Long Island Sound		W	0.099	Zawacki & Briggs (1976)
" "	"		D	0.396	"
Scorpionfish *Scorpaenopsis cacopsis*	Hawaii	muscle	W	0.05	Klemmer et al. (1976)
Small spotted dogfish *Scyliorhinus caniculus*			W	(0.3-0.37)0.33	Cumont et al. (1972)
" "	Spain & Portugal	muscle	D	0.15	Stenner & Nickless (1975)
Rougheye rockfish *Sebastes aleutianus*	Oregon		W	(0.06-0.11)0.08	Childs & Gaffke (1973)
Copper rockfish *Sebastes caurinus*	British Columbia	muscle	W	(0.07-1.13)0.60	Fimreite et al. (1971)

Yellowtail rockfish Sebastes flavidus	Oregon		W	(0.19-0.53) 0.371	Childs & Gaffke (1973)
Dark-banded rockfish Sebastes inermis	Japan			(0.01-0.27)	Ui (1971)
Ocean perch, Redfish Sebastes marinus	Canada	muscle	W	(0.07-1.13)	Fimreite et al. (1971)
" "	E. Canada	"	W	0.13±0.02	Freeman et al. (1974)
" "	N.W. Atlantic	"	W	(0.10-0.20)	Greig et al. (1975)
" "	" "	liver	W	0.15	"
" "	Norway (before 1941)	muscle	W	0.152	Raeder & Snekvik (1941)
Japanese amberjack Seriola quinqueradiata	Japan			(0.03-0.08) 0.05	Suzuki & Hatanaka (1974)
" "	"	(fed jack mackerel with methyl Hg)		(0.28-0.49)0.43	"
" "	"			(0.04-0.18)	Ui (1971)
Painted comber Serranus scriba	Tyrrhenian Sea	muscle	W	4.64	Renzoni et al. (1974)
Silver whiting Sillago sihama	Onuki, Japan 1961	whole	D	3.0	Matida & Kumada (1969)
" "	Minamata Bay, 1961	muscle	D	36.0	"
" "	Japan			(0.02-0.06)	Ui (1971)
Sole Solea vulgaris (=Solea solea)	Atlantic		W	(0.02-0.15) 0.042	Cumont et al. (1972)

Sole Solea vulgaris (=Solea solea)	Mediterranean		W	0.42	Cumont et al. (1972)
" "	Spain & Portugal	muscle	D	(0.05-0.17)	Stenner & Nickless (1975)
Great barracuda Sphyraena barracuda	Hawaii	"	W	0.34	Klemmer et al. (1976)
Barracuda, guaguanche Sphyraena guachancho	E. Mexico			(0.02-0.31) 0.11±SD 0.09	Reimer & Reimer (1975)
Brown barracuda Sphyraena pinguis	Minamata Bay, 1961	muscle	D	58.3	Fujiki (1963)
" "	" "	liver	D	47.1	"
" "	" "	heart	D	1.7	"
" "	" "	gill	D	12.1	"
" "	" "	digestive gland	D	1.2	"
Scalloped hammerhead Sphyrna lewini	W. Atlantic	muscle	D	2.7	Windom et al. (1973b)
" "	"	liver	D	0.4	"
" "	"	stomach	D	0.9	"
Bonnethead Sphyrna tiburo	"	muscle	D	2.3	"
" "	"	liver	D	0.4	"
" "	"	stomach	D	0.6	"
Black sea bream Spondyliosoma cantharus (=Cantharus lineatus)			W	0.07	Cumont et al. (1972)
" "	Spain & Portugal	muscle	D	ND	Stenner & Nickless (1975)

Sprat *Sprattus sprattus* (=*Clupea sprattus*)	Norway		D	0.14	Andersen & Neelakantan (1974)
Spiny dogfish *Squalus acanthias*			W	(0.07-0.64) 0.21	Cumont et al. (1972)
" "	Oregon		W	(0.2-1.14) 0.602	Childs & Gaffke (1973)
" "	British Columbia		W	(0.1-1.96)	Forrester et al. (1972)
" "	N.W. Atlantic	muscle	W	(0.07-0.53)	Greig et al. (1975)
" "	"	liver	W	(<0.05-0.19)	"
" "	W. Atlantic	muscle	D	2.7	Windom et al. (1973b)
" "	"	liver	D	0.4	"
" "	"	spleen	D	1.8	"
Angel shark *Squalus dumerili*	N.W. Atlantic	muscle	W	0.08	Greig et al. (1975)
" "	"	liver	W	<0.05	"
Pacific spiny dogfish *Squalus suckleyi*		adult, muscle	W	(0.332-0.999) 0.66	Childs et al. (1973)
" "		fetus	W	0.024	"
" "		"		0.058 (max.)	"
Anchovy *Stolephorus sp.*	Thailand	muscle	W	<0.01	Huschenbeth & Harms (1975)
Pipefish *Syngnathus griseolineatus leptorhyncus*	Baja Calif. 1946	whole	D	0.17±0.15	Miller et al. (1972)

Lizardfish *Synodus dermatogeny*	Hawaii	muscle	W	0.07±SD 0.10	Klemmer et al. (1976)
Lizardfish *Synodus similis*	Thailand	"	W	0.03	Huschenbeth & Harms (1975)
Seawater catfish *Tachysurus sp.*	"	"	W	0.01	"
Blue lanternfish *Tarletonbeania crenularis*	California		W	(0.013-0.096) 0.03	Knauer & Martin (1972)
White marlin *Tetrapturus albidus*	W. Atlantic		W	1.34	in Peterson et al. (1973)
Wrasse *Thalossoma duperreyi*	Hawaii	muscle	W	0.10±SD 0.06	Klemmer et al. (1976)
Albacore *Thunnus alalunga*	S. Atlantic		W	(0.1-0.9)0.25	Cumont et al. (1972)
" "	France & Spain		W	(0.24-0.9)0.48	"
Yellowfin tuna *Thunnus albacares* (=Thunnus albacora)	Dakar	muscle		0.48	Aldrin et al. (1973)
" "	Atlantic, Africa		W	(0.29-0.77)0.49	Establier (1972)
" "	Pacific			(0.2-0.76)	Peterson et al. (1973)
" "	California	fresh	W	0.13±0.01	Miller et al. (1972)
" "	"	canned in water	W	(0.38-0.48)	"
" "	"	canned in oil	W	0.3	"

Yellowfin tuna Thunnus albacares (=Thunnus albacora)	California, 1880		W	0.27±SD 0.03	Miller et al. (1972)
" "	"		D	0.59±SD 0.06	"
" "	W. Africa		W	(0.05-1.2)0.2	Cumont et al. (1972)
" "	Central America		W	(0.11-0.9)0.58	"
" "	Pacific Ocean		W	(0.1-0.8)0.5	"
" "	Imported	(1437 FDA analyses)	W	0.31±0.085	Simpson et al. (1974)
" "	Domestic	(383 FDA analyses)	W	0.25±0.1	"
" "	N.E. Pacific		W	(0.8-1.2)1.06	Kishore & Guinn (1972)
Bigeye tuna Thunnus obesus				(0.41-1.08)	Cumont et al. (1972)
" "	Dakar	muscle		0.46	Aldrin et al. (1973)
" "	Pacific Ocean	"	W	(0.47-1.1)	Nishigaki et al. (1973)
Bluefin tuna Thunnus thynnus	Massachusetts, 1886		W	0.38±SD 0.01	Miller et al. (1972)
" "	"		D	1.14±SD 0.04	"
" "			W	0.36	Sumino (1968)
" "	Atlantic		W	(0.2-0.8) 0.485	Cumont et al. (1972)
" "	Mediterranean		W	(0.5-2.4)1.145	"
" "	"	muscle		(0.5-2.5)1.1	FAO/WHO (1972)

Bluefin tuna Thunnus thynnus	Gulf of Cadiz		W	(0.46-0.91) 0.68	Establier (1972)
" "	W. Atlantic		W	0.8	in Peterson et al. (1973)
Tuna (all kinds)			W	(0.36-1.12) 0.37	FDA (1970)
"	E. Canada			(0.33-0.86)	Bligh (1971)
"		canned		(0.032-1.0)	DeGoeij & Zegers (1971)
"		"	W	(0.2-0.75)	McDuffie (1971)
Russel's dart Trachinotus russelli	Thailand	muscle	W	0.04	Huschenbeth & Harms (1975)
Bigeye scad Trachurops crumenophthalmus	Hawaii		W	(0.07-0.11)0.1	Rivers et al. (1972)
Yellowfin, horse mackerel Trachurus trachurus (=Trachurus japonicus)	Adriatic Sea		D	6.22	Vucetic et al. (1974)
" "	Japan			(0.03-0.11)	Ui (1971)
Atlantic cutlassfish Trichiurus lepturus	China Sea	muscle		0.98	Suzuki et al. (1973)
" "	" "	brain		7.36	"
" "	Japan			(0.04-0.22)	Ui (1971)
Mailed sculpin Triglops nybelini	N.W. Atlantic	whole	W	<0.05	Greig et al. (1975)
Bib Trisopterus luscus (=Gadus luscus)	Atlantic Ocean		W	0.1	Cumont et al. (1972)

Capelan *Trisopterus minutus capelanus*	Mediterranean		W	0.84	Cumont et al. (1972)
Tsurus glaucus	Dakar	muscle		1.1	Aldrin et al. (1973)
Red hake *Urophycis chuss*	E. Canada	"	W	0.12±0.04	Freeman et al. (1974)
" "	N.W. Atlantic	"	W	(<0.05-0.05)	Greig et al. (1975)
" "	" "	liver	W	(<0.05-0.08)	"
" "	Delaware Bay	muscle	W	(0.022-0.105) 0.075±SD 0.031	Gerhart (1977)
Swordfish *Xiphias gladius*	Baja Calif. 1946		W	0.52±0.1	Miller et al. (1972)
" "	California		W	(0.23-1.27)	"
" "		frozen	W	1.3	McDuffie (1971)
" "			W	(0.8-1.0)	FDA (1970)
" "	E. Canada			(0.82-1.0)	Bligh (1971)
" "				(0.18-2.4)0.93	Anonymous (1971)
" "	N.W. Atlantic		W	2.0	Windom (1972)
" "	" "		D	8.1	"
" "	Canada			(0.14-1.07)	Freeman & Horne (1973b)
" "	Dakar	muscle		1.7	Aldrin et al. (1973)
" "	Peru	"	W	(1.08-1.84)	Nishigaki et al. (1973)
" "	Pacific	"	W	(0.49-1.66)	"

Swordfish *Xiphias gladius*	W. Atlantic	W	(0.05-4.9)1.15	in Peterson et al. (1973)
" "	Gibraltar Strait	W	(0.99-2.01) 1.36	Establier (1972)

MERCURY IN FRESHWATER FISH(1)

Species	Locality	Tissue	Analysis(2) PPM	Authority
Lake sturgeon *Acipenser fulvescens*	Lake St. Clair		W (2.0-3.0)	Evans et al. (1972)
White sturgeon *Acipenser transmontanus*	Columbia R.		0.78	Montague (1971)
" " (white)	"	muscle	W (0.087-0.779)	Buhler et al. (1973)
" " "	Washington	"	W (0.119-0.319)	"
" " ?	California		(0.08-0.8)0.25	Mitre Corp. (1975)
Blue back herring *Alosa aestivalis*	Georgia		(0.11-0.12)0.12	"
Alewife *Alosa pseudoharengus*	Canada	muscle	W 0.1	Fimreite et al. (1971)
" "	Lake Michigan	concentrate	D 0.9	Beasley (1971)
" "	N.W. Atlantic		W 0.14±0.08	Freeman et al. (1974)
" "	Wisconsin	muscle	W (0.09-1.3)	Kleinert & Degurse (1972)

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (S.D.), standard error (S.E.), median and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Alewife *Alosa pseudoharengus*			(0.0-0.1)	Peyton et al. (1975)
Bowfin *Amia calva*	Georgia	muscle	W (0.28-0.82) 0.45	Cumbie (1975a)
" "	"		(0.24-5.71)	Mitre Corp. (1975)
Rock bass *Ambloplites rupestris*	Ontario	muscle	W (0.55-4.64) 2.8	Fimreite et al. (1971)
" "	Michigan		W 0.42	Rottschafer et al. (1971)
" "	W. Ontario	muscle	W (1.14-10.9) 6.22	Fimreite & Reynolds (1973)
" "	Lake Tetu Ontario	"	W 0.55	"
" "	Lake St. Clair	"	W (0.5-2.0)	Evans et al. (1972)
Climbing perch *Anabas sp.*	Philippines Isl.		(1.23-1.4)1.32	Lesaca (1975)
European eel *Anguilla anguilla* (yellow)	Sweden	muscle	W (0.081-2.03)	Henricksson (1968)
" " (black)	"	"	W (0.052-0.175)	"
" "	Norway		W 0.167	Raeder & Snekvik (1948)
" "	Netherlands		(0.14-0.49)	Greve & Wit (1971)
" "	Sweden	muscle	W (0.034-0.88)	Johnels et al. (1967)
American eel *Anguilla rostrata*	Canada	"	W (0.28-0.38)0.32	Fimreite et al. (1971)

American eel *Anguilla rostrata*	Chesapeake Bay		W (0.02-0.12)0.06	Bender et al. (1972)
" "	Nova Scotia		0.72	Freeman & Horne (1973a)
Sheephead, Freshwater drum *Aplodinotus grunniens*	Lake Erie	muscle	W 0.24	BCF (1970)
" "	" "	"	W (0.3-0.67)	Pillay et al. (1972)
" "	Lake St. Clair	"	W (0.5-2.0)	Evans et al. (1972)
" "	Illinois	recent bones	0.0	Wilmsen & Myers (1972)
" "	Michigan	400 A.D. bones	(0.066-0.106)	"
Barbus barbus plabejus	Italy		W (0.184-1.634) 0.821	Cigna Rossi & Clemente (1976)
Barbus meridionalis	"	muscle	(0.027-8.03)	Bacci & Renzoni (1973)
Stoneroller *Campostoma anomalum*	Tennessee		W (0.009-0.083) 0.039±SD 0.022	Huckabee & Blaylock (1973)
" "	Georgia		0.07	Mitre Corp. (1975)
Quillback *Carpiodes cyprinus*	Lake St. Clair	muscle	W <0.5	Evans et al. (1972)
" "	Wisconsin	"	W (0.08-3.02)	Kleinert & Degurse (1972)
River carp sucker *Carpiodes carpio*	Montana	whole	W 0.11	Henderson & Shanks (1973)

River carp sucker *Carpiodes carpio*	Georgia			(0.41-0.42)	Mitre Corp. (1975)
" "	Texas			(0.137-0.436)	"
Goldfish *Carassius auratus*	New York			0.1	Bache et al. (1971)
" "	Lake St. Clair	muscle	W	<0.5	Evans et al. (1972)
Long-nose sucker *Catostomus catostomus*	Saskatchewan	"	W	(0.7-1.7)	Wobeser et al. (1970)
" "	Quebec	"		0.88	Fimreite et al. (1971)
" "	Alaska	whole	W	(0.05-0.09)	Hendersen & Shanks (1973)
White sucker *Catostomus commersoni*	Saskatchewan	muscle	W	(0.7-11.2)	Wobeser et al. (1970)
" "	"	"	W	0.88	Fimreite et al. (1971)
" "	Quebec	"	W	(0.52-0.95) 0.73	"
" "	Ontario	"	W	(0.64-8.94)	Fimreite & Reynolds (1973)
" "	Lake Erie	"	W	(0.35-0.56)	Pillay et al. (1972)
" "	New York			0.09	Bache et al. (1971)
" "	Massachusetts	"	W	(0.068-0.283) 0.186±SD 0.083	DiNardi et al. (1974)
" "	Georgia			(0.22-0.23)	Mitre Corp. (1975)

Flannelmouth sucker *Catostomus latipinnis*	Lake Powell Arizona	muscle	W	0.0988	Potter et al. (1975)
" "	"	liver	W	0.036	"
" "	"	heart	W	0.0146	"
Largescale sucker *Catostomus macrocheilus*	Washington	whole	W	(0.07-0.3)	Henderson & Shanks (1973)
" "	Oregon	"	W	(0.18-0.37)	"
" "	Idaho	"	W	(0.08-0.42)	"
" "	"	muscle	W	(0.15-0.358)	Buhler et al. (1973)
" "	Oregon	"	W	(0.07-0.521)	"
" "	Washington	"	W	(0.009-0.42)	"
" "	Columbia R.	"	W	(0.04-0.47)	"
Flier *Centrarchus macropterus*	Georgia			0.45	Mitre Corp. (1975)
Chinese snakehead *Channa argus*	Agana River	"	D	4.8	Matida & Kumada (1969)
Rosyside dace *Clinostomus funduloides*	Tennessee		W	(0.026-0.129) 0.044±SD 019	Huckabee & Blaylock (1973)
Cisco, lake herring *Coregonus artedii*	Wisconsin	muscle	W	(0.19-0.45)	Kleinert & Degurse (1972)
Lake whitefish *Coregonus clupeaformis*	Canada (normal)	muscle	W	0.07	Uthe & Bligh (1971)
" "	Canada (polluted water)	"	W	0.17	"

Lake whitefish Coregonus clupeaformis	Lake Huron		W (0.05-0.15)	Rottschafer et al. (1971)
" "	New York		0.2	Bache et al. (1971)
" "	Canada		(0.01-0.4)	Jervis et al. (1970)
" "	"		W (0.07-0.17)	Bligh (1971)
" "	"		0.07	Uthe et al. (1971)
" "	Ontario		0.17	"
" "	E. Quebec	muscle	W (0.06-0.22)	Smith et al. (1975)
Whitefish Coregonus lavaretus	Norway		W 0.076	Raeder & Snekvik (1948)
" "	Sweden (contaminated)		W 3.1	Jernalöv (1972)
" "	Sweden	muscle	W (1.06-1.4)	Westoo (1969)
Banded sculpin Cottus carolinae	Tennessee		W (0.006-0.105) 0.025±SD 0.018	Huckabee & Blaylock (1973)
Brook stickleback Culaea inconstans (=Eucalia inconstans)	Quebec	muscle	W (0.19-0.2)0.19	Fimreite et al. (1971)
Sheepshead minnow Cyprinodon variegatus	Texas		0.073	Petrocelli et al. (1975)
Carp Cyprinus carpio	Texas		(0.217-0.306)	Mitre Corp. (1975)
" "	Lake Erie	muscle	W (0.08-0.28)	BCF (1970)

Carp Cyprinus carpio	Lake Erie	muscle	W(0.23-0.36)	Pillay et al. (1972)
" "	Lake St. Clair	"	W <0.5	Evans et al. (1972)
" "	Gumma, Japan	"	D 0.2	Matida & Kumada (1969)
" "	Ohio		W (0.15-0.45)	Aronson et al. (1976)
" "	Utah	muscle	W (0.04-1.21)	Smith et al. (1973)
" "	Lake Powell, Arizona	"	W 0.252	Potter et al. (1975)
" "	" "	liver	W 0.152	"
" "	" "	heart	W 0.0667	"
" "	Washington	whole	W (0.07-0.23)	Henderson & Shanks (1973)
" "	Idaho	"	W (0.21-0.29)	"
" "	Oregon	"	W (0.17-0.18)	"
" "	California	"	W (0.11-0.23)	"
" "	Nevada	"	W (0.05-0.37)	"
" "	Montana	"	W 0.35	"
" "	Washington	muscle	W (0.018-0.825)	Buhler et al. (1973)
" "	Georgia		(0.22-1.2)	Mitre Corp. (1975)
" "	California		(0.29-1.16)0.56	"
Gizzard shad Dorosoma cepedianum	Lake Erie	muscle	W 0.24	BCF (1970)
" "	" "	"	W (0.2-0.26)	Pillay et al. (1972)

Gizzard shad Dorosoma cepedianum	Lake St. Clair	muscle	W	<0.5	Evans et al. (1972)
" "	Georgia			(0.03-0.96)	Mitre Corp. (1975)
Threadfin shad Dorosoma petenense	Lake Powell, Arizona	whole	W	0.021	Potter et al. (1975)
" "	" "	muscle	W	0.042	"
Creek chubsucker Erimyzon oblongus	Georgia	muscle	W	(0.12-0.15)0.14	Cumbie (1975a)
" "	Michigan		W	(0.034-0.053) 0.038	Mathis & Kevern (1975)
" "	Georgia			0.31	Mitre Corp. (1975)
Redfin pickerel Esox americanus americanus	Georgia	muscle	W	(0.34-0.5)0.39	Cumbie (1975a)
" "	"			0.73	Mitre Corp. (1975)
Northern pike Esox lucius	Sweden	muscle	W	(0.2-9.8)	Johnels et al. (1968)
" "	Quebec	"	W	(0.3-0.75)	Fimreite et al. (1971)
" "	Sweden (1964-1966)		W	(0.06-2.5)	Johnels et al. (1968)
" "	Sweden	muscle	W	(0.79-3.35)	Westoo (1967)
" "	Swedish lakes 1965-1967		W	(0.5-10.0)	Birke et al. (1967)
" "	Sweden 1964	heart	W	1.0	Johnels et al. (1968)
" "	"	axial muscle	W	0.85	"

Northern pike **Esox lucius**		Sweden	liver	W 0.78	Johnels et al. (1968)
"	"	"	kidney	W 0.64	
"	"	"	brain	W 0.29	"
"	"	"	ovary	W 0.56	"
"	"	"		W 17.0	Larsson (1970)
"	"			W (0.04-11.5)	Hasselrot (1968)
"	"	Norway	muscle	W 0.122	Raeder & Snekvik (1941)
"	"	Saskatchewan	"	W (0.7-10.6)	Wobeser et al. (1970)
"	"	Canada (normal)	"	W 0.11	Uthe & Bligh (1971)
"	"	Canada (polluted)	"	W (0.49-0.70)	"
"	"	Ontario	"	W 1.0	Fimreite et al. (1971)
"	"	"	"	W (1.61-27.8)	Fimreite & Reynolds (1973)
"	"	Lake of the Woods	"	W (0.36-0.49)0.43	"
"	"	Sweden	"	(0.5-6.0)	Ljunggren (1971)
"	"	"	"	W 9.8	Lofroth (1969)
"	"	"	"	W (0.1-9.1)	Johnels et al. (1968)
"	"	"	"	W (0.1-1.3)	Berg et al. (1966)

Northern pike *Esox lucius*	Lake Erie	muscle	W 0.64	BCF (1970)
" "	Canada		W (0.06-0.6)	Jervis et al. (1970)
" "	Canada, Saskatchewan R. (above Saskatoon)		0.46	Bligh (1971)
" "	(below Saskatoon)		5.96	"
" "	Lake St. Clair		1.76	"
" "	New York		W (0.55-0.7)	McDuffie (1971)
" "	Lake St. Clair	muscle	W (2.0-3.0)	Evans et al. (1972)
" "	N.W. Ontario mining area		5.55	in Leland et al. (1976)
" "	Sweden upstream		W 0.55	Westoo (1969)
" "	Sweden downstream from paper factory		W (3.13-3.48)	"
" "	Ontario (polluted)	muscle	W (1.32-27.8)	Takeuchi et al. (1977)
" "	Ontario (non-polluted)	"	W (0.22-1.88)	"
" "	E. Quebec	"	W (0.33-1.21)	Smith et al. (1975)
" "	Netherlands		0.85	Greve & Wit (1971)
" "	Wisconsin	muscle	W (0.9-1.44)	Kleinert & Degurse (1972)

Muskellunge Esox masquinongy	Lake St. Clair	muscle	W	>3.0	Evans et al. (1972)
" "	Wisconsin	"	W	(0.05-0.39)	Kleinert & Degurse (1972)
" "				(0.66-0.99)	Peyton et al. (1975)
Chain pickerel Esox niger	Great Lakes			5.0	Abelson (1970)
" "	Lake Erie			1.0	"
" "		muscle	W	to 5.0	BCF (1970)
" "	Saskatchewan		W	(0.15-0.42)	Jervis et al. (1970)
" "	Georgia	muscle	W	(0.29-1.4) 0.81	Cumbie (1975a)
" "	"			(0.2-2.4)	Mitre Corp. (1975)
Mosquitofish Gambusia affinis	S. Florida		W	0.15	Ogden et al. (1974)
Goldeye Hiodon alosoides	Saskatchewan	muscle	W	(0.9-11.0)	Wobeser et al. (1970)
" "	Montana	whole	W	(0.14-0.25)	Henderson & Shanks (1973)
Mooneye Hiodon tergisus	Wisconsin	muscle	W	(0.11-0.69)	Kleinert & Degurse (1972)

White catfish __Ictalurus__ __catus__	California	whole	W (0.19-0.2)	Henderson & Shanks (1973)
" "	Georgia		(0.37-1.59)	Mitre Corp. (1975)
Black bullhead __Ictalurus__ __melas__	New York		W (0.1-0.12)	McDuffie (1971)
" "	Lake St. Clair	muscle	<0.5	Evans et al. (1972)
" "	Illinois	"	W (0.09-0.39)	Anderson & Smith (1977)
" "	Utah	"	W (0.03-0.24) 0.113±SD 0.054	Smith et al. (1973)
Yellow bullhead __Ictalurus__ __natalis__	Lake St. Clair	muscle	W 0.5	Evans et al. (1972)
" "	Michigan		W (0.053-0.135) 0.085	Mathis & Kevern (1975)
Brown bullhead __Ictalurus__ __nebulosus__	Ohio		W (0.27-1.01)	Aronson et al. (1976)
" "	Georgia		(0.04-0.51)	Mitre Corp. (1975)
" "	Nevada	whole	W (0.22-0.35)	Henderson & Shanks (1973)
" "	Oregon	whole	W (0.47-0.9)	"
" "	"	muscle	W (0.22-1.78)	Buhler et al. (1973)
Channel catfish __Ictalurus__ __punctatus__	Lake Erie	"	W (0.32-1.8)	BCF (1970)
" "	" "	"	W (0.36-0.42)	Pillay et al. (1972)

Channel catfish Ictalurus punctatus	Lake St. Clair	muscle	W (0.5-2.0)	Evans et al. (1972)
" "	Ohio		W (0.07-0.43)	Aronson et al. (1976)
" "	Illinois	recent bones	0.014±0.01	Wilmsen & Myers (1972)
" "	Michigan	400 A.D. bones	0.061-0.293	"
" "	Illinois	muscle	W (0.03-0.19) 0.082	Anderson & Smith (1977)
" "	Washington	whole	W (0.1-0.9)	Henderson & Shanks (1973)
" "	"	"	W (0.16-0.2)	"
" "	Montana	"	W (0.08-0.18)	"
" "	Oregon	muscle	W (0.22-1.53) 0.607	Buhler et al. (1973)
" "	Georgia		(0.07-1.87)	Mitre Corp. (1975)
" "	Texas		(0.2-2.47)	"
Bigmouth buffalo Ictiobus cyprinellus	Lake St. Clair	muscle	W <0.5	Evans et al. (1972)
" "	Wisconsin	"	W (0.13-0.27)	Kleinert & Degurse (1972)
" "			(0.11-0.25)	Peyton et al. (1975)
Longnose gar Lepisosteus osseus	Lake St. Clair	muscle	W (0.5-2.0)	Evans et al. (1972)
Gar Lepisosteus sp.	Georgia	"	W (0.23-0.8)0.42	Cumbie (1975a)

Florida gar _Lepisosteus platyrhincus_	S. Florida		W 0.6	Ogden et al. (1974)
Green sunfish _Lepomis cyanellus_	Utah	muscle	W 0.12	Smith et al. (1973)
" "	Illinois	"	W (0.11-0.3)0.17	Anderson & Smith (1977)
Pumkinseed _Lepomis gibbosus_	Ontario	muscle	W (0.26-7.09)2.64	Fimreite et al. (1971)
" "	Ohio		W (0.05 0.45)	Aronson et al. (1976)
" "	Massachusetts	"	W (0.055-0.132) 0.093±SD 0.021	DiNardi et al. (1974)
Warmouth _Lepomis gulosus_	Georgia		0.49	Mitre Corp. (1975)
Bluegill _Lepomis macrochirus_	Michigan		W 0.4	Rottschafer et al. (1971)
" "	Ohio		W (0.05-0.45)	Aronson et al. (1976)
" "	New York		W 0.18	McDuffie (1971)
" "	Lake St. Clair	muscle	W <0.5	Evans et al. (1972)
" "	Illinois	"	W (0.04-0.26)0.11	Anderson & Smith (1977)
" "	S. Florida		W (0.22-0.94)	Ogden et al. (1974)
" "	Lake Powell, Arizona	muscle	W 0.091	Potter et al. (1975)
" "	" "	liver	W 0.086	"
" "	" "	heart	W 0.129	"

Bluegill __Lepomis macrochirus__	Georgia		(0.1-1.23)	Mitre Corp. (1975)
" "	California		(0.08-0.71)0.3	"
Red-eared sunfish __Lepomis microlophus__	Georgia		(0.17-0.64)	..
Chub __Leuciscus cephalus cabeda__	Italy		W (0.098-1.271)0.41	Cigna Rossi & Clemente (1976)
Chub __Leuciscus cephalus__	Italy	muscle	(0.027-8.03)	Bacci & Renzoni (1973)
Chub __Leuciscus hakuensis__	Tone R., Japan, 1961	whole	D 1.4	Matida & Kumada (1969)
" "	"	muscle	D 1.5	"
" "	Agano R., Japan (polluted) 1961	muscle	D (10.0-20.0)	"
" "	"	liver	D 52.0	"
" "	"	kidney	D 28.0	"
Roach __Leuciscus rutilus__	Sweden		W (0.9-1.2)	Jernelov & Freyshuss (1968)
__Limia sp.__	(from Cuba) Hawaii	whole	W (0.06-0.13)	Henderson & Shanks (1973)
Burbot __Lota lota__	Norway		W 0.077	Raeder & Snekvik (1948)
" "	Ontario	muscle	W (19.1-24.8)	Fimreite & Reynolds (1973)

Burbot *Lota lota*	Canada		16.65	Bligh (1970)
" "	Saskatchewan	muscle	W (1.2-5.3)	Wobeser et al. (1970)
" "	Ontario (polluted)	muscle	W (10.46-24.8)	Takeuchi et al. (1977)
" "	Ontario, (non-polluted)	"	W (0.08-0.1)	"
" "	Lake of the Woods	"	W (0.08-0.1)0.09	Fimreite & Reynolds (1973)
Eelpout *Lota vulgaris*	Sweden	muscle	W (0.35-0.7)	Westoo (1969)
Pike-perch *Lucioperca sandra*	Oresund, Sweden	"	W (0.051-0.08)	Henricksson (1968)
" "	Sweden (polluted)	"	W (2.05-2.39)	Westoo (1969)
" "	Sweden	"	W (0.051-0.71)	Johnels (1967)
" "	Netherlands		0.42	Greve & Wit (1971)
Murrel *Macrocephalus sp.*	Philippine Isl.		1.61	Lesaca (1975)
Smallmouth bass *Micropterus dolomieui*	New York		0.55	Bache et al. (1971)
" "	" "		W (0.4-1.57)	McDuffie (1971)
" "	Lake Erie	muscle	W 0.55	Pillay et al. (1972)
" "	Lake St. Clair	"	W (2.0-2.3)	Evans et al. (1972)
" "	Massachusetts	"	W (0.93-0.274) 0.164±SD 0.049	DiNardi et al. (1974)

Smallmouth bass *Micropterus dolomieui*	Idaho	whole	W (0.15-0.21)	Henderson & Shanks (1973)
" "	Washington	"	W (0.14-0.27)	"
" "	"	muscle	W (0.117-0.25) 0.186	Buhler et al. (1973)
Largemouth bass *Micropterus salmoides*	Texas		W 0.14	Rottschafer et al. (1971)
" "	Utah	muscle	W (0.27-7.3)1.94	Smith et al. (1973)
" "	California	"	W (0.1-0.63) 0.297	Buhler et al. (1973)
" "	Oregon	"	W (0.181-1.75) 0.715	"
" "	Washington	"	W (0.112-0.293) 0.202	"
" "	Georgia		(0.07-5.4)	Mitre Corp (1975)
" "	"	muscle	W (0.34-0.53)0.44	Cumbie (1975a)
" "	Michigan		W (0.189-0.899) 0.468	Mathis & Kevern (1975)
" "	Illinois	muscle	W (0.03-1.24)	Anderson & Smith (1977)
" "	S. Florida		W 0.31	Ogden et al. (1974)
" "	Lake Powell, Arizona	muscle	W 0.314	Potter et al. (1975)
" "	" "	liver	W 0.163	"
" "	" "	heart	W 0.102	"

Largemouth bass Micropterus salmoides	California	whole	W	(0.12-0.22)	Henderson & Shanks (1973)
" "	Oregon	"	W	0.14	"
" "	Nevada	"	W	(1.1-1.8)	"
" "	California			(0.0-0.76) 0.25	Mitre Corp. (1975)
Spotted sucker Minytrema melanops	Georgia			(0.22-2.29)	"
White bass Morone chrysops	Ontario	muscle	W	1.62	Fimreite et al. (1971)
" "	W. Lake Erie		W	0.6	Rottschafer et al. (1971)
" "	Lake Erie	muscle	W	(0.43-0.72)	Pillay et al. (1972)
" "	" "	"	W	(0.53-0.8)	BCF (1970)
" "	Lake St. Clair	"	W	(0.5-2.0)	Evans et al. (1972)
" "	Ohio		W	(0.05-0.47)	Aronson et al. (1976)
" "	Illinois	muscle	W	(0.05-0.12) 0.081	Anderson & Smith (1977)
" "	Georgia			(0.25-0.54)	Mitre Corp. (1975)
Yellow bass Morone mississippiensis (=Roccus mississippiensis)	Wisconsin	muscle	W	(0.03-1.13)	Kleinert & Degurse (1972)
Silver redhorse Moxostoma anisurum	Lake St. Clair	muscle	W	<0.5	Evans et al. (1972)

Shorthead redhorse Moxostoma macrolepidnotum (=Moxostoma aureolum)	Montana	whole	W	(0.13-0.16)	Henderson & Shanks (1973)
" "	Saskatchewan	"	W	(1.0-2.4)	Wobeser et al. (1970)
" "				(0.09-1.6)	Mitre Corp. (1975)
" "	Wisconsin		W	2.19	Kleinert & Degurse (1972)
Peamouth Mylocheilus caurinus	British Columbia	muscle	W	0.84	Fimreite et al. (1971)
" "	Washington	"	W	0.131	Buhler et al. (1973)
" "	Idaho	"	W	(0.235-0.395)	"
" "	Columbia R.	"	W	(0.069-0.41)	"
Emerald shiner Notropis atherinoides	Lake St. Clair		W	3.8	Dustman et al. (1972)
Golden shiner Notemigonus crysoleucas	"		W	1.8	"
Chum salmon Onchorhynchus keta	Japan	liver		3.4	Haga et al. (1970)
" "	"	muscle		0.45	"
Coho salmon Oncorhynchus kisutch	S.W. Lake Erie		W	0.48	Rottschafer et al. (1971)
" "	"	muscle	W	(0.24-0.96)	BCF (1970)
" "	New York		W	(0.31-0.38)	Bache et al. (1971)
" "	Lake Erie	muscle	W	(0.51-0.69)	Pillay et al. (1972)
" "		muscle (canned)		0.018	Hall (1974)
" "	Columbia R.	muscle	W	(0.028-0.041)0.033 ± 0.003	Buhler et al. (1973)

Brook mason salmon _Oncorhynchus_ _masou_	Agano R., Japan, 1961 (polluted)	muscle	D 1.8	Matida & Kumada (1969)
" "	" " "	liver	D 4.6	"
" "	Oippe R., Japan, 1961 (normal)	whole	D 0.1	"
Sockeye salmon _Oncorhynchus_ _nerka_	(5-year old)	kidney & liver	(0.14-0.24)	Amend (1970)
" "	(juveniles)	all tissues	1.0	"
" "		muscle (canned)	0.047	Hall (1974)
Chinook salmon, king salmon _Oncorhynchus_ _tschawytscha_	(experiment, fed Hg)	liver	30.5	Rucker & Amend (1969)
" "	" "	large intestine	23.6	"
" "	" "	kidney	17.5	"
" "	Columbia R.	muscle	W (0.03-0.135) 0.08±0.033	Buhler et al. (1973)
Rainbow smelt _Osmerus_ _mordax_	Lake Erie	"	W 0.3	Pillay et al. (1972)
" "	Lake St. Clair		W <0.5	Evans et al. (1972)
" "	Lake Erie		0.05	Bligh (1971)
" "	Lake Ontario	muscle	W 0.05	Uthe & Bligh (1971)
" "	Lake Michigan		8.22	in Leland et al. (1976)
" "	Great Lakes		(0.062-0.26)	Thomas (1972)

Rainbow smelt *Osmerus mordax*	New York		W 0.1	McDuffie (1971)
Yellow perch *Perca flavescens*	Quebec	muscle	W (0.19-0.82)	Fimreite et al. (1971)
" "	Lake Erie		W (0.17-0.34)	Rottschafer et al. (1971)
" "	" "		W 0.22	Uthe & Bligh (1971)
" "	" "	muscle	W (0.32-1.7)	BCF (1970)
" "	New York		W 0.46	Bache et al. (1971)
" "	Ohio		W (0.03-0.99)	Aronson et al. (1976)
" "	Lake St. Clair		W 1.14	Bligh (1971)
" "	Lake Erie		W 2.2	"
" "	Utah		W (0.13-0.43) 0.29	Smith et al. (1973)
" "	Lake St. Clair		W 3.6	Dustman et al. (1972)
" "	Canada		W (0.2-0.26)	Jervis et al. (1970)
" "	New York		W (0.15-0.5)	McDuffie (1971)
" "	Lake St. Clair	muscle	W (0.5-2.0)	Evans et al. (1972)
" "	Michigan		W (0.015-0.258) 0.124±0.04	Mathis & Kevern (1975)
" "	Massachusetts	muscle	W (0.069-0.133) 0.11±SD 0.023	DiNardi et al. (1974)

Yellow perch Perca flavescens	Lake Erie	muscle	W (0.29-0.61)	Pillay et al. (1972)
" "	California	whole	W (0.19-0.22)	Henderson & Shanks (1973)
" "	Idaho	"	W 0.13	"
" "	Georgia		(0.58-4.0)	Mitre Corp. (1975)
European perch Perca fluviatilus	Sweden	muscle	W (1.39-4.16)	Henricksson (1968)
" "	Norway		W 0.089	Raeder & Snekvik (1948)
" "	Norway (normal)	muscle	W (0.13-0.59)	Underdal & Hastein (1971)
" "	Norway (below pulp mill)	muscle	W (3.86-6.08) 4.93±1.02	"
" "	Sweden	"	W (0.13-3.95)	Westoo (1967)
" "	Sweden (downstream from paper factory; polluted)	muscle	W (1.91-3.02)	Westoo (1969)
" "	Sweden (upstream; normal)	"	W (0.18-0.70)	"
" "	"	muscle	W (0.13-1.03)	Johnels et al. (1967)
" "	Netherlands		0.85	Greve & Wit (1971)
Sea lamprey Petromyzon marinus	Lake St. Clair	muscle	W >3.0	Evans et al. (1972)

Flathead *Platycephalus sp.*	Philippines Isl.		0.95	Lesaca (1975)
White crappie *Pomoxis annularis*	Lake St. Clair	muscle	W (2.0-3.0)	Evans et al. (1972)
" "	Illinois	"	W (0.05-0.09) 0.069	Anderson & Smith (1977)
" "	Oregon	whole	W 0.23	Henderson & Shanks (1973)
" "	"	muscle	W (0.062-0.13)	Buhler et al. (1973)
" "	Georgia		(0.27-1.59)	Mitre Corp. (1975)
Black crappie *Pomoxis nigromaculatus*	Lake Powell, Arizona	muscle	W 0.204	Potter et al. (1975)
" "	" "		W 0.062	"
" "	" "		W 0.022	"
" "	Oregon	whole	W 0.25	Henderson & Shanks (1973)
" "	Washington	"	W 0.13	..
" "	California	"	W (0.09-0.14)	..
" "	"	muscle	W (0.041-0.333)	Buhler et al. (1973)
" "	Columbia R.	"	W (0.21-0.48)	"
" "	Oregon	"	W (0.29-0.39)	..
" "	Georgia		(0.66-1.4)	Mitre Corp. (1975)
Round whitefish *Prosopium cylindraceum*	Alaska	whole	W (0.06-0.09)	Henderson & Shanks (1973)

Bonneville cisco Prosopium gemmiferum	Utah	muscle	W	(0.12-0.33) 0.255	Smith etal. (1973)
Bonneville whitefish Prosopium spilonotus	"	"	W	(0.1-0.16)0.13	"
Mountain whitefish Prosopium williamsoni	British Columbia	"	W	(0.30-1.5) 0.65	Fimreite et al. (1971)
" "	Utah	"	W	(0.02-0.1) 0.065	Smith et al. (1973)
" "	Washington	whole	W	0.19	Henderson & Shanks (1973)
" "	"	muscle	W	(0.029-0.122)	Buhler et al. (1973)
Northern squawfish Ptychocheilus oregonensis	Montana	"		0.25	Van Meter (1974)
" "	Washington	whole	W	(0.25-1.2)	Henderson & Shanks (1973)
" "	Oregon	"	W	(0.67-1.25)	"
" "	Idaho	"	W	(0.37-1.7)	"
" "	"	muscle	W	(0.57-1.98)	Buhler et al. (1973)
" "	Oregon	"	W	(0.262-1.51)	"
" "	Columbia R.	"	W	(0.266-1.92)	"
" "	California	"		(0.11-1.16) 0.36	Mitre Corp. (1975)
Nine spine stickleback Pungitius pungitius (=Gasterosteus pungitius)	Norway		W	0.142	Raeder & Snekvik (1948)
Flathead catfish Pylodictis olivaris	Illinois	recent bones		0.002±0.007	Wilmson & Myers (1972)

Flathead catfish *Pylodictis olivaris*	Michigan	400 AD		0.006±0.012	Wilmson & Myers (1972)
" "	Georgia			(0.32-0.45)	Mitre Corp. (1975)
" "	Texas			0.82	"
Loach *Rutilus rubilio*	Italy	muscle		(0.027-8.03)	Basci & Renzoni (1973)
Cutthroat trout *Salmo clarki*	Oregon	"	W	(0.031-0.064) 0.045±0.013	Buhler et al. (1973)
Brown trout *Salmo fario*	above and below cinnabar refinery	kidney	W	(0.003-0.357)	Byrne et al. (1971)
" "	"	muscle	W	(0.00008-0.0096)	"
" "	"	liver	W	(0.0008-0.156)	"
" "	Italy		W	(0.136-0.233) 0.18	Cigna Rossi & Clemente (1976)
Rainbow trout *Salmo gairdneri*	Utah	muscle	W	(0.02-0.39) 0.14±SD 0.108	Smith et al. (1973)
" "	British Columbia	"	W	(0.25-0.68) 0.38	Fimreite et al. (1971)
" "	New York		W	(0.14-0.16)	Bache et al. (1971)
" "			W	0.15	BCF (1970)
" "	New York		W	(0.36-0.46)	McDuffie (1971)
" "	Washington		W	0.12	Boyle (1971)
" "	Tennessee		W	(0.003-0.177) 0.036±SD 0.028	Huckabee & Blaylock (1973)

Rainbow trout *Salmo gairdneri*	Idaho	wild	W (<0.008-0.6)0.31	Gebhards et al. (1971)
" "	"	hatchery reared	W (0.05-0.17)0.1	"
" "	Massachusetts	muscle	W (0.031-0.081) 0.049±SD 0.016	DiNardi et al. (1974)
" "	Lake Powell, Arizona	"	W 0.0845	Potter et al. (1975)
" "	" "	liver	W 0.186	"
" "	" "	heart	W 0.228	"
" "	Alaska	whole	W 0.12	Henderson & Shanks (1973)
" "	Idaho	"	W (0.13-0.18)	"
" "	California	"	W 0.14	"
" "	Oregon	muscle	W (0.085-0.158)	Buhler et al. (1973)
" "	California		(0.03-0.21)0.09	Mitre Corp. (1975)
Atlantic salmon *Salmo salar*	Norway (before 1941)	muscle	W 0.073	Raeder & Snekvik (1941)
" "	Sweden (polluted)	(young)	W to 1.25	Hasselrot (1968)
" "	"	(2-yr. old)	W to 15.20	"
" "	Sweden	muscle	W (0.112-0.13)	Johnels et al. (1967)
" "		liver	W (0.15-0.22)	Johnels et al. (1968)
" "	Sweden	muscle	W (0.75-1.73)	Ljunggren et al. (1971)

Atlantic salmon Salmo salar	N.W. Atlantic	kidney	W 0.14	Freeman et al. (1974)
" "	" "	muscle	W 0.11±0.01	"
Brown trout Salmo trutta	Norway (before 1941)	"	W 0.133	Raeder & Snekvik (1941)
" "	Norway (L. Benna)		W 0.136	Raeder & Snekvik (1948)
" "	Norway (L. Aursunden)		W 0.094)	"
" "	Norway (normal)	muscle	W (0.09-0.47)	Underdal & Hastein (1971)
" "	Norway (below pulp mill)	"	W (2.66-7.38)	"
" "	Utah	"	W (0.013-1.33)	Smith et al. (1973)
" "	Sweden	"	W (0.022-0.13)	Westoo (1967)
" "	Montana	"	0.53	Van Meter (1974)
" "	Lake Powell Arizona	"	W 0.0845	Potter et al. (1975)
" "	" "	liver	W 0.186	"
" "	" "	heart	W 0.228	"
" "	California		0.36	Mitre Corp. (1975)
" "	Wisconsin		W 0.11	Kleinert & Degurse (1972)
Arctic char Salvelinus alpinus	Norway (before 1941)	muscle	W 0.142	Raeder & Snekvik (1941)

Arctic char *Salvelinus alpinus*	Norway		W (0.1-0.138)	Raeder & Snekvik (1948)
" "	Norway (normal)	muscle	W (0.14-0.55)	Underdal & Hastein (1971)
" "	Arctic N. America	"	W 0.11	Pillay et al. (1972)
" "		"	0.049	Smith & Armstrong in Leland et al. (1976)
Brook trout *Salvelinus fontinalis*	Canada	muscle	W (1.07-10.7)	Fimreite et al. (1971)
" "	New York		W (0.04-0.4)	McDuffie (1971)
" "	Tennessee		W (0.007-0.064) 0.018±SD 0.018	Huckabee & Blaylock (1973)
" "	Canada	(methyl-Hg)	W (0.08-0.13)	Zitco et al. (1971)
" "	E. Quebec	muscle	W (0.12-0.57)	Smith et al. (1975)
White-spotted char *Salvelinus leucomaenis*	Amemasu, Japan, 1961 (normal)	whole	D 0.1	Matida & Kumada (1969)
" "	Oippe R., Japan, 1961 (normal)	muscle	D 0.3	"
" "	" "	liver	D 0.1	"
" "	" "	kidney	D 0.4	"
Lake trout *Salvelinus namaycush*	British Columbia	muscle	W (1.07-10.5)5.78	Fimreite et al. (1971)

Lake trout Salvelinus namaycush	New York	whole	W (0.37-0.49)	Bache et al. (1971)
" "	" "		0.41	McDuffie (1971)
" "	Ontario	muscle	W (0.31-1.33)	Fimreite & Reynolds (1973)
" "	E. Quebec	"	W (0.32-1.21)	Smith et al. (1975)
" "	New York		W 0.41	McDuffie (1971)
" "	" "	increase with age	(0.27-0.58)	Bache et al. (1971)
" "	Alaska	whole	W 0.12	Henderson & Shanks (1973)
Fallfish Semotilus corporalis	Quebec	muscle	W (0.73-0.94) 0.84	Fimreite et al. (1971)
" "	Navaho Lake Colorado		8.9	Montague (1971)
Sauger Stizostedion canadense	Ontario	muscle	W (0.42-2.73)	Fimreite et al. (1971)
" "	Saskatchewan	"	W (1.1-1.5)	Wobeser et al. (1970)
" "	"	"	W (2.0-3.0)	Evans et al. (1972)
" "	Montana	whole	W 0.24	Henderson & Shanks (1973)
Walleye Stizostedion vitreum	Canada		W (9.36-10.5)	Bligh (1970)
" "	Lake Erie	muscle	W (1.4-3.57)	BCF (1970)
" "	Lake St. Clair		1.32	Bligh (1971)

Walleye *Stizostedion*	*vitreum*	Lake St. Clair	muscle	W (0.24-5.8)1.4 ±SD 1.0	Reynolds & Laarman (1970)
"	"	"		W 1.56	Rottschafer et al. (1971)
"	"	Utah		W (0.16-3.9)1.4	Smith et al. (1973)
"	"	Ontario (polluted)	muscle	W (0.28-19.6)	Fimreite & Reynolds (1973)
"	"	Ontario (normal)	"	W (0.24-1.12)	"
"	"	Saskatchewan	"	W (0.6-5.3)	Wobeser et al. (1970)
"	"	Canada		W (0.08-1.5)	Jervis et al. (1970)
"	"	New York		W (0.4-1.3)	McDuffie (1971)
"	"	Lake Erie	muscle	W (0.33-0.79)	Pillay et al. (1972)
"	"	Lake St. Clair	"	W (2.0-3.0)	Evans et al. (1972)
"	"	Ontario	"	W (0.42-5.01)	Fimreite et al. (1971)
"	"	Quebec	"	W (0.48-2.15)	"
"	"	Ontario (mining area)		3.24	in Leland et al. (1976)
"	"	Sweden	muscle	W (0.17-2.55)	Westoo (1967)
"	"	Ontario (polluted)	"	W (1.5-19.6)	Takeuchi et al. (1977)
"	"	Ontario (non-polluted)	"	W (0.2-1.1)	"

Walleye Stizostedion vitreum	Great Lakes		(0.26-0.91)	Thomas (1972)
" "	Lake of the Woods		W (0.2-0.65)0.36	Fimreite & Reynolds (1973)
" "	Lake Powell, Arizona	muscle	W 0.427	Potter et al. (1975)
" "	" "	liver	W 0.149	"
" "	" "	heart	W 0.135	"
" "	Washington	whole	W (0.11-0.12)	Henderson & Shanks (1973)
" "	Wisconsin	muscle	W (0.62-5.82)	Kleinert & Degurse (1972)
Theraponid Therapogon sp.	Philippine Isl.		0.875	Lesaca (1975)
Mouthbrooder Tilapia sp.	" "		(0.575-1.875) 1.225	"
" "	Hawaii	whole	W (0.09-0.11)	Henderson & Shanks (1973)
Pale chub Zacco platypus	Agano River, Japan		D (0.8-1.1)	Matida & Kumada (1969)

MERCURY IN MOLLUSCS (1)

Species	Locality	Tissue	Analysis (2) PPM	Authority
Calico scallop *Aequipecten gibbus*	Florida	adductor muscle	W (0.01-0.07) 0.04±SD 0.01	Zook et al. (1976)
Tuberculate ark *Anadara tuberculosa*	W. Mexico		W (0.02-0.10) 0.05±SD 0.02	Reimer & Reimer (1975)
Paper shell mussel *Anodonta cygnea*	Great Britain		D (0.07-0.76)	Leatherland & Burton (1974)
Atlantic bay scallop *Argopecten irradians* (=Aequipecten irradians)	Massachusetts		W (0.02-0.05) 0.04±SD 0.01	Zook et al. (1976)
" "	Connecticut		W 4.8±SE 0.2	Nelson et al. (1976)
Papershell mussel *Anodonta grandis*	Manitoba	whole	W (<0.01-0.18)	Smith et al. (1975a)
" "	"	foot	W (0.05-0.62)	"
" "	"	mantle	W (0.06-0.78)	"
" "	"	adductor	W (0.07-0.83)	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Papershell mussel *Anodonta grandis*	Manitoba	gill	W	(0.07-0.51)	Smith et al. (1975)
" "	" (uncontam. lake)	foot	W	0.05	"
" "	" (contam. lake)	"	W	0.62	"
Northern whelk *Buccinum undatum*	Norway		D	0.61	Andersen & Neelakantan (1974)
" "	Great Britain		D	0.38	Leatherland & Burton (1974)
Channeled whelk *Busycon canaliculatum*	Long Island Sound	muscle	W	(0.12-0.14)	Greig et al. (1977b)
" "	"	digestive gland	W	(0.27-0.52)	"
" "	Chincoteague	muscle	W	0.06	"
" "	"	digestive gland	W	0.16	"
Limpet *Cellana exarata*	Hawaii	soft parts	W	0.02±SD 0.03	Klemmer et al. (1976)
Cockle *Cerastoderma edule* (=Cardium edule)	Norway		D	0.4	Andersen & Neelakantan (1974)
" "	Spain		D	0.19	in "
" "	Netherlands		W	(0.067-0.133)	Koeman et al. (1971)
" "	Thames Estuary		D	(0.02-0.12) 0.07	Anonymous (1971a)
" "	Great Britain		D	(0.06-0.86)	Leatherland & Burton (1974)

Pacific scallop *Chlamys ferrei nipponensis*	Japan, Minamata Bay		D	48.0	Matida & Kumada (1969)
Tiger lucine *Codakia orbicularis*	Mexico, Veracruz		W	(0.03-0.22) 0.09±SD 0.06	Reimer & Reimer (1975)
Portuguese oyster *Crassostrea angulata*	Great Britain		D	0.56	Leatherland & Burton (1974)
Sydney rock oyster *Crassostrea commercialis*	Australia	soft parts	W	(0.001-0.10)	Hussain & Bleiler (1973)
Giant Pacific oyster *Crassostrea gigas*	Japan, Minamata Bay		D	10.0	Matida & Kumada (1969)
" "	"		W	5.61	Kitamura (1968)
" "	Japan, Matsushima Bay		D	3.3	Matida & Kumada (1969)
" "	British Columbia		D	0.12±SD 0.03	Parsons et al. (1973)
" "	California			0.06	Mitre Corp. (1975)
Rock oyster *Crassostrea glomerata*	New Zealand	soft parts	W	(0.05-0.4) 0.18	Nielsen & Nathan (1975)
Atlantic oyster *Crassostrea virginica*	Chesapeake Bay			(0.02-0.2)	Bender et al. (1972)
" "			W	0.03±0.02	Simpson et al. (1974)
" "	Texas	soft parts	D	(0.05-0.13)	Sims & Presley (1976)

Atlantic oyster Crassostrea virginica	N.W. Atlantic		D	(0.11-1.43) 0.45	Windom (1972)
" "	Texas	shell		<0.1	Smith & Wright (1962)
" "	"			(0.01-0.9)	Mitre Corp. (1975)
" "	Georgia			0.17±SD 0.14	"
" "	E. Mexico		W	(0.01-0.06) 0.025	Reimer & Reimer (1975)
" "	Maryland & Virginia	soft parts	W	(0.01-0.05) 0.03±SD 0.01	Zook et al. (1976)
" "	Long Island	"	W	(0.04-0.09) 0.06±SD 0.02	"
" "	Nova Scotia	muscle	W	(0.06-0.13) 0.10±SD 0.02	Freeman et al. (1974)
Atlantic slipper shell Crepidula fornicata	Great Britain		D	(0.3-0.8)	Leatherland & Burton (1974)
Cowry Cypraea exanthema	California (near sewage outfall)	soft parts	D	21.0	Klein & Goldberg (1970)
Cyprina icelandica	Norway		D	0.55	Andersen & Neelakantan (1974)
Clam Driessensia polymorphia	France		W	0.016	Cumont & Montiel (1973)
Gastropoda	Yugoslavia		W	(0.002-0.093)	Byrne et al. (1971)
"	" (polluted area)		W	11.5	Kosta et al. (1975)
"				2.0	Bowen (1966)

Abalone *Haliotis iris*	New Zealand	soft parts	W	0.10	Nielsen & Nathan (1975)
Red abalone *Haliotis rufescens*	California	gill	D	(0.08-0.27)	Anderlini (1974)
" "	"	mantle	D	(0.02-0.33)	"
" "	"	digestive gland	D	(0.12-4.64)	"
" "	"	foot	D	(0.03-0.09)	"
Giant rock scallop *Hinnites multirugosus*	California, La Jolla		D	(0.7-1.6)	Klein & Goldberg (1970)
" "	" (sewage outfall)		D	(0.4-1.0)	"
Clam *Hormomya mutabilis*	Japan, Minamata Bay		D	(18.0-48.0)	Matida & Kumada (1969)
" "	" "	ganglion	D	181.0	Fujiki (1963)
" "	" "	gill	D	87.0	"
" "	" "	ligament	D	62.0	"
" "	" "	mantle	D	63.0	"
" "	" "	muscle	D	25.0	"
" "	" "	byssus	D	20.0	"
" "	" "	digestive gland	D	73.0	"
" "	" "	genital gland	D	64.0	"
Squid *Illex illecebrosus*	N.W. Atlantic	whole	W	(<0.05-0.06)	Greig et al. (1975)

Kellets whelk Kelletia kelleti	California, La Jolla	soft parts	D	(0.9-2.1)	Klein & Goldberg (1970)
" "	" (outfall)	"	D	(0.9-2.5)	"
Snail Linnea sp.	Norway, Lake Benna		W	0.288	Raeder & Snekvik (1948)
" "		HgCl solution in pond	W	0.038	Hannerz (1968)
Periwinkle Littorina littoralis	Great Britain		W	0.564	Jones et al. (1972)
" "	"		D	1.843	"
" "	"		D	0.25	Leatherland & Burton (1974)
Periwinkle Littorina littorea	"		W	(0.02-0.04)	Holden (1972)
" "	"		W	0.036	Jones et al. (1972)
" "	"		D	0.112	"
" "	"		D	(0.47-0.6)	Leatherland & Burton (1974)
" "	"		W	(0.03-0.33)	Wharfe & Van Den Broek (1977)
Short squid Loliguncula brevis	N.W. Atlantic		D	(0.3-0.44) 0.36	Windom (1972)
Squid Loligo forbesi	Nova Scotia	muscle	W	(0.06-0.11) 0.09±0.02	Freeman et al. (1974)

Squid *Loligo vulgaris*	North Adriatic		W	0.252	Strohal & Dzajo (1971)
" "	"		D	1.15	"
Balthic macoma *Macoma balthica*	Netherlands		W	(0.085-0.107)	Koeman et al. (1971)
Mactra sulcateria	Japan, Minamata Bay		D	3.0	Matida & Kumada (1969)
Freshwater clam *Margaritifera margaritifera*	New Brunswick		W	0.08	Fimreite et al. (1971)
Euphausid *Meganyctiphanes norvegica*	N.W. Africa		D	0.2	Leatherland et al. (1973)
Hard shell clam (Quahog) *Mercenaria mercenaria* (=Venus mercenaria)	Great Britain	soft parts	D	(0.18-0.57) 0.44	Burton & Leatherland (1971)
" "	"	"	W	(0.03-0.12)0.08	"
" "	N.W. Atlantic		D	(0.27-0.38) 0.32	Windom (1972)
" "	Great Britain	soft tissue	D	0.57	Leatherland & Burton (1974)
" "	"	visceral mass	D	0.4	"
" "	"	mantle	D	0.48	"
" "	"	foot	D	0.83	"
" "	"	adductor muscle	D	0.64	"
" "	"	gill	D	1.46	"
" "	W. United States			(0.8-2.3)	Craig (1967)

TYPING GUIDE SHEET

Hard shell clam (Quahog) *Mercenaria mercenaria* (=Venus mercenaria)	Nova Scotia	muscle	W	(<0.005-0.04) <0.02	Freeman et al. (1974)
" "	Maryland, Chincoteaque	soft parts	W	(0.02-0.07) 0.05±SD 0.02	Zook et al. (1976)
Blue mussel *Mytilus edulis*	Belgium		D	0.97	in Andersen & Neelakantan (1974)
" "	Spain		D	1.5	"
" "	Tay Region		D	2.0	"
" "	New Brunswick		W	0.11	Fimreite et al. (1971)
" "	Netherlands		W	(0.08-0.31)	Koeman et al. (1971)
" "	Japan, Matsushima Bay		D	(0.0-0.6)	Matida & Kumada (1969)
" "	Netherlands	hepato-pancreas	W	0.38	Koeman et al. (1971)
" "	"	shell	W	0.06	"
" "	"	mantle	W	0.11	"
" "				(0.02-13.4)	Bligh (1971)
" "	Canada		W	0.02	Holden (1973)
" "	Finland (polluted)		W	(0.03-0.04)	"
" "	Netherlands (slight pollution)		W	(0.08-0.31)	"
" "	Belgium (1904, preserved in alcohol)		D	(0.47-1.55)	Bertine & Goldberg (1972)
" "	Netherlands		D	(0.75-5.4)	"
" "	Thames Estuary		W	(0.02-0.65) 0.18	Anonymous (1971a)

EPA-287 (Cin) (4-76)

TYPING GUIDE SHEET

Blue mussel *Mytilus edulis*	Great Britain		W	(0.02-0.7)	Holden (1972)
" "	British Columbia		W	0.12±SD 0.03	Parsons et al. (1973)
" "	Great Britain		W	0.639	Jones et al. (1972)
" "	"		D	2.112	"
" "	"		W	(0.05-0.46)	Wharfe & Van Den Broek (1977)
" "	New Zealand	soft parts	W	(0.02-0.48)	Nielsen & Nathan (1975)
" "	Norway		D	(0.2-0.65)	Stenner & Nickless (1974)
" "	Norway, Oslofjord		D	(0.08-0.57) 0.26	Andersen & Neelakantan (1974)
" "	"	gill	D	0.54	"
" "	"	mantle	D	0.12	"
" "	"	adductor muscle	D	0.12	"
" "	"	visceral mass	D	0.35	"
" "	"	soft parts	D	0.27	"
" "	Great Britain	ctenidia	W	3.412	Jones et al. (1972)
" "	"	"	D	19.95	"
" "	"	visceral mass	W	0.275	"
" "	"	"	D	1.347	"
" "	"	foot muscle	W	0.364	"

EPA-287 (Cin.)
(4-76)

Blue mussel *Mytilus edulis*	Great Britain	foot muscle	D	0.765	Jones et al. (1972)
" "	"	mantle	W	0.871	"
" "	"	"	D	4.261	"
" "	"		W	0.639	"
" "	"		D	2.112	"
" "	Norway	soft parts	W	0.1	Lande (1977)
" "	Sweden		W	(0.03-0.15)	Holden (1973)
" "	Great Britain	"	D	(0.43-1.86)	Raymont (1972)
" "	" (polluted)		W	(0.07-0.46)	Holden (1973)
" "	Norway		W	0.177	Raeder & Snekvik (1948)
" "	Europe	soft parts	W	(0.053-0.83)	DeWolf (1975)
" "	Sweden (in methyl Hg soln.)			0.005	Hannerz (1968)
" "	Great Britain		D	(0.42-1.9)	Leatherland & Burton (1974)
" "	Adriatic Sea		D	0.25	Vucetic et al. (1974)
Mussel *Mytilus galloprovincialis*	Belgium (1922)		D	0.19	Bertine & Goldberg (1972)
" "			D	(0.04-0.08)	Thibaud (1973)

Blue mussel *Mytilus edulis*	Adriatic Sea		D	0.4	Vucetic et al. (1974)
" "	"		W	0.0665	Strohal & Dzajo (1971)
" "	"		D	0.408	"
Northern horse mussel, ribbed mussel *Modiolus modiolus* (= Arcuatula modiolus = Volsella modiolus)	Norway		D	0.84	Andersen & Neelakantan (1974)
" "	Nova Scotia	muscle	W	0.04±SD 0.01	Freeman et al. (1974)
Softshell clam *Mya arenaria*	Norway		D	0.29	Andersen & Neelakantan (1974)
" "	New Brunswick (3 km below pulp mill)		W	0.93	Fimreite et al. (1971)
" "	" (below chlor-alkali plant)		W	3.59	"
" "	British Columbia		D	0.12±SD 0.03	Parsons et al. (1973)
" "	Nova Scotia	muscle	W	(0.03-0.13) 0.05±SD 0.03	Freeman et al. (1974)
" "	Chesapeake Bay	soft parts	W	(0.01-0.05) 0.03±SD 0.02	Zook et al. (1976)
Intertidal mussel *Mytilus californianus*	S. California	digestive gland	W	(0.017-0.032) 0.022±SD 0.005	Eganhouse & Young (1976)
" "	"	adductor muscle	W	(0.008-0.021) 0.012±SD 0.005	"
" "	"	gonad	W	(0.002-0.010) 0.005±SD 0.002	"

TYPING GUIDE SHEET

Pichy seasnail _Nerita picea_	Hawaii	soft parts	W	0.03±SD 0.01	Klemmer et al. (1976)
Dog whelk _Nucella lapillus_	Great Britain		W	0.480	Jones et al. (1972)
" "	"		D	1.472	"
Octopus _Octopus octopus_	Hawaii		W	0.09±SD 0.02	Klemmer et al. (1976)
Atlantic octopus _Octopus vulgaris_	Japan, Minamata Bay		D	62.0	Matida & Kumada (1969)
" "	N.W. Atlantic		D	0.17	Windom (1972)
" "	"		W	0.041	"
Cuttlefish _Ommastrephes bartrami_	S. California		W	0.056	Williams & Weiss (1973)
" "	"		D	0.280	"
Cuttlefish _Ommastrephes sloani pacificus_	W. Pacific	muscle	W	(0.02-0.07)	Doi & Ui (1973)
" " "	"	liver	W	(0.03-0.13)	"
Oyster _Ostrea edulis_	Thames Estuary		W	(0.03-0.2) 0.11	Anonymous (1971a)
" "	North Adriatic		W	0.0551	Strohal & Dzajo (1971)
" "	"		D	0.259	"
" "	Great Britain		D	(0.36-1.2)	Leatherland & Burton (1974)
Dredge oyster _Ostrea lutaria_	New Zealand	soft parts	W	0.19	Nielsen & Nathan (1975)

EPA-287 (Cin.)
(4-76)

Shellfish					
Paphia philippinarum	Japan, Minamata Bay (contaminated water)		W	20.0	Kitamura (1968)
European limpet *Patella vulgata*	Israel	soft parts	D	(0.117-0.344)	Navrot et al. (1974)
" "	"	skeleton	D	ND	"
" "	Great Britain		W	0.187	Jones et al. (1972)
" "	"		D	0.543	"
" "	"		D	(0.07-0.36)	Leatherland & Burton (1974)
" "	"		W	(0.02-0.31)	Peden et al. (1973)
Scallop *Pecten novaezelandiae*	New Zealand	soft parts	W	(0.03-0.06) 0.05	Nielsen & Nathan (1975)
Scallop *Pecten maximus*	Great Britain		W	(0.01-0.06)	Holden (1972)
Green-lipped mussel *Perna canalicularis*	New Zealand	soft parts	W	(0.04-0.19) 0.09	Nielsen & Nathan (1975)
Pearl oyster *Pinctada martensii*	Japan, Minamata Bay		D	(5.0-32.0)	Matida & Kumada (1969)
Pen shell *Pinna attenuata*	"		D	(11.0-25.0)	"
Atlantic deep-sea scallop *Placopecten magellanicus*	E. Canada	muscle	W	(0.07-0.10) 0.09±SD 0.001	Freeman et al. (1974)
" "	N.W. Atlantic	"	W	<0.05	Greig et al. (1975)

TYPING GUIDE SHEET

Atlantic deep-sea scallop *Placopecten magellanicus*	N.W. Atlantic	muscle	W	(0.03-0.08) 0.05±SD 0.01	Zook et al. (1976)
Sea slug *Plakobranchus ocellata*	Hawaii		W	0.00	Klemmer et al. (1976)
Ramshorn snail *Planorbis sp.*		in HgCl solution		0.05	Hannerz (1968)
Thorny skate *Raja radiata*	Nova Scotia	muscle	W	(0.12-0.41)	Freeman et al. (1974)
Cuttlefish *Sepia officionalis*	Great Britain	gill	D	0.9	Leatherland & Burton (1974)
" "	"	mantle	D	0.67	"
" "	North Adriatic		W	0.263	Strohal & Dzajo (1971)
" "			D	1.18	"
Cuttlefish *Sepia subaculeata*	South Pacific		W	0.013	Ui (1971)
Sphaeriidae	Ontario	in stomach of golden-eye	W	1.14	Vermeer et al. (1973)
"Snails"	"	" "	W	0.38	"
Surf clam *Spisula sp.* (hemphilli?)	W. United States			(0.8-2.3)	Craig (1967)
Surf clam *Spisula solidissima*	Delaware	muscle	W	<0.05	Greig et al. (1977b)
" "	Chincoteague	"	W	<0.05	"
" "	Maryland & Virginia	heart & tongue	W	(0.01-0.07) 0.05±SD 0.02	Zook et al. (1976)

EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET

Clam *Tapes japonica*	Hawaii	soft parts	W	0.02±SD 0.01	Klemmer et al. (1976)
Freshwater mussel *Unio elongatulus*	Italy (Cinnabar ore area)	digestive gland	W	1.403±SE 0.107	Renzoni & Bacci (1976)
" "	" "	gill	W	1.259±SE 0.139	"
" "	" "	gonad	W	1.232±SE 0.210	"
" "	" "	mantle	W	0.866±SE 0.106	"
" "	" "	foot	W	0.855±SE 0.060	"
" "	" "	adductor muscle	W	0.818±SE 0.051	"
" "	" "	shell		0.12	"
Mussel *Unio mancus*				(0.04-0.3)	Bowen (1966)
Little neck clam *Tapes philippinarum* (=Venerupis philippinarum)	Japan (polluted)			(15.0-63.0)	Yoshida et al. (1967)
Venus japonica	" (cultured 8 days in water with Hg sludge from acetaldehyde factory)		D	53.0	Fujiki (1963) "
"Scallops"	(171 FDA analyses)		W	0.02±0.01	Simpson et al. (1974)
"Japanese common squid"	Japan Sea			(0.015-0.05)	Nagakura et al. (1974)
"King squid"	Antarctic			(0.13-0.22)	"

EPA-287 (Cin.)
(4-79)

MERCURY IN CRUSTACEA(1)

Species	Locality	Tissue	Analysis(2) PPM	Authority
Decapod *Acanthephyra eximia*	N.W. Africa		D 0.38	Leatherland et al. (1973)
Copepod *Acartia clausi*	Greece	whole	D (0.16-0.44) 0.29	Zafiropoulos & Grimanis (1977)
Scud *Amphipoda*	Norway		W 0.24	Raeder & Snekvik (1941)
Sow bug *Asellus sp.*	Sweden (20 km below paper mill)		W 1.9	Johnels et al. (1971)
" "	" (1-15 km above paper mill)		W 0.06	"
Crayfish *Astacus fluviatilis*	Sweden	tail muscle	W 0.14	Johnels et al. (1967)
" "	"	liver	W 0.09	"
" "	"	carapace	W 0.027	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Crayfish Astacus nobilis	France		W	0.045	Cumont & Montiel (1973)
Blue crab Callinectes sapidus	New Jersey	cooked muscle		(0.99-1.12)	Personal comm. (1971)
" "	Chesapeake Bay			(0.06-0.14) 0.08	Bender et al. (1972)
" "	N.W. Atlantic		D	(0.1-7.7)1.3	Windom (1972)
" "	Belgium		D	(0.7-1.7)	Bertine & Goldberg (1972)
" "	Chesapeake Bay	muscle	W	(0.04-0.10) 0.07±SD 0.02	Zook et al. (1976)
" "	Great Britain Thames Estuary		D	0.19	Anonymous (1971a)
Crayfish Cambarus sp.	Lake St. Clair	in bull-frog stomach	W	0.1	Dustman et al. (1972)
Crab Cancer anthonyi	La Jolla California		D	0.8	Klein & Goldberg (1970)
" "	Palos Verdes California		D	(0.5-2.3)	"
Rock crab Cancer irroratus	E. Canada	leg muscle	W	(0.08-0.16) 0.12±SD 0.03	Freeman et al. (1974)
" "	Long Island Sound	muscle	W	0.18±SE 0.02	Greig et al. (1977b)
" "	"	digestive gland	W	0.09±SE 0.01	"
" "	New York Bight	muscle	W	0.19±SE 0.03	"

Rock crab *Cancer irroratus*	New York Bight	digestive gland	W	1.9±SE 0.3	Greig et al. (1977b)
" "	"	gill	W	0.03±SE 0.01	"
" "	Delaware	muscle	W	0.16±SE 0.05	"
" "	"	digestive gland	W	0.07	"
" "	Chincoteague	muscle	W	0.15±SE 0.02	"
" "	"	digestive gland	W	0.24	"
Dungeness crab *Cancer magister*	British Columbia (Vancouver outfall)	muscle	D	0.37	Parsons et al. (1973)
" "	" (non-polluted)	"	D	(0.12-0.9)	"
Crab *Cancer pagurus*	Norway	shell	W	0.06	Raeder & Snekvik (1948)
" "	"	soft parts	W	0.062	"
Green crab *Carcinus maenas*	"	muscle	D	0.39	Andersen & Neelakantan (1974)
" "	Great Britain		D	(0.08-0.44)	Wharfe & Van Den Broek (1977)
Charybdis japonica	Japan Minamata Bay	leg muscle	D	(41.0-100.0)	Matida & Kumada (1969)
Sand shrimp *Crangon crangon* (=Crangon vulgaris)	Norway		D	0.38	Andersen & Neelakantan (1974)

Sand shrimp *Crangon crangon* (=Crangon vulgaris)	Netherlands		W	0.12	Koeman et al. (1971)
" "	Belgium		D	(0.7-1.7)	Bertine & Goldberg (1972)
" "	Great Britain		D	0.17	Wharfe & Van Den Broek (1977)
Mycid *Eucophia sculpticauda*	S. W. Africa		D	0.2	Leatherland & Burton (1973)
Mycid *Eucophia sp.*	S. California	whole	W	0.065	Williams & Weiss (1973)
" "	"	"	D	0.406	"
Euphausid *Euphausia pacifica*	Oregon		W	(0.004-0.016) 0.008	Cutshall & Holton (1972)
" "	"		W	(0.041-0.086) 0.058	"
" "	N.E. Pacific		D	(0.05-0.11) 0.08	Robertson et al. (1972)
Euphausid *Euphausia superba*	Antarctic			(0.008-0.015)	Nagakura et al. (1974)
"Euphausids"	Oregon		D	(0.06-0.55) 0.20	Robertson et al. (1972)
Red crab *Geryon quinquedens*	Nova Scotia	muscle	W	(0.21-0.59) 0.38±0.12	Freeman et al. (1974)
" "	Mid Atlantic Bight	"	W	0.23	Greig et al. (1976)
" "	"	gill	W	<0.16	"

EPA-287 (Cin.)
(8-76)

TYPING GUIDE SHEET

Rock crab _Grapsus grapsus_	Hawaii	muscle	W	0.10±SD 0.09	Klemmer et al. (1976)
American lobster _Homarus americanus_	Chesapeake Bay			(0.03-0.06)	Bender et al. (1972)
" "	(185 FDA analyses)		W	0.07±0.02	Simpson et al. (1974)
" "	N.W. Atlantic		D	(0.25-1.6) 0.85	Windom (1972)
" "	Gulf of St. Lawrence			0.15	Sprague & Carson (1970)
" "	Nova Scotia	claw muscle	W	(0.21-1.13) 0.46±SD 0.28	Freeman et al. (1974)
" "	"	"	W	(0.15-0.34) 0.25±SD 0.08	"
" "	"	tail muscle	W	(0.44-1.53) 0.73±SD 0.37)	"
" "	N.W. Atlantic	"	W	0.31	Greig et al. (1975)
" "	"	liver	W	0.60	"
Lobster _Homarus gammarus_ (=Homarus vulgaris)	North Adriatic		W	0.125	Strohal & Dzajo (1971)
" "	"		D	0.357	"
Prawn _Macrobrachium grandimanus_	Hawaii	muscle	W	0.08±SD 0.00	Klemmer et al. (1976)
Freshwater prawn _Macrobrachium rosenbergii_	Thailand		W	(<0.01-0.20)	Huschenbeth & Harms (1975)
Decapod _Maia squinada_	Spain & Portugal		D	0.03	Stenner & Nickless (1975)

EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD: BEGIN SECTIONS HERE

Decapod *Maia squinada*	North Adriatic		W	0.125	Strohal & Dzajo (1971)
" "	"		D	0.357	"
Prawn *Metapenaeus sp.*	Thailand		W	0.03	Huschenbeth & Harms (1975)
Lobster *Nephrops norvegicus*	North Adriatic		W	0.691	Strohal & Dzajo (1971)
" "	"		D	2.60	"
Crab *Neptunus pelagicus*	Japan, Minamata Bay	leg muscle	D	39.0	Matida & Kumada (1969)
Decapod *Oplophorus sp.*	N.W. Africa		D	0.36	Leatherland et al. (1973)
" "	"	(methyl-Hg)	D	0.33	"
Crayfish *Orconectes virilis*	Ontario	in stomachs of mergansers & goldeneye	W	(4.7-9.6)7.1	Vermeer et al. (1973)
" "	" (contaminated water from chlor-alkali plant)		W	(1.43-7.36)	Takeuchi et al. (1977)
" "	" (non-contaminated)		W	(0.09-0.49)	"
Striped rock crab *Pachygrapsus marmoratus*	Italy	(high conc. Hg in crabs in effluent below chlor-alkali factory)			Renzoni et al. (1974)
Shrimp *Palaemon elegans*	Great Britain		D	0.98	Leatherland & Burton (1974)

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
3/8"

EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET

Pink shrimp Pandalus borealis	Norway		D	0.33	Andersen & Neelakantan (1974)
" "	N.W. Atlantic	muscle	W	(0.04-0.08) 0.06±SD 0.01	Zook et al. (1976)
" "		shell & head	W	0.114	Raeder & Snekvik (1948)
" "		soft parts	W	0.051	"
Pink shrimp Pandalus jordani	Oregon		W	(0.036-0.155) 0.068	Cutshall & Holton (1972)
Shrimp Pandalus montagni	"		D	(0.067-0.77) 0.42	Robertson et al. (1972)
Shrimp Pandalus sp.	N.W. Atlantic	whole	W	(<0.05-0.09)	Greig et al. (1975)
Spiny lobster Panulirus argus	"		D	0.29	Windom (1972)
" "	"		W	0.078	"
Spiny lobster Panulirus borealis	Florida	tail muscle	W	(0.15-0.23) 0.19±SD 0.02	Zook et al. (1976)
King crab Paralithodes camschatica	Alaska	muscle	W	(0.05-0.11) 0.075±SD 0.025	"
Pasiphea multidentata			D	0.31	Andersen & Neelakantan (1974)
Brown shrimp Penaeus aztecus	E. Mexico	muscle	W	(0.01-0.67) 0.06±SD 0.12	Reimer & Reimer (1975)

EPA 287 (Cin.) (4-76)

TYPING GUIDE SHEET

Brown shrimp Penaeus aztecus	Texas	whole	D	<0.02	Sims & Presley (1976)
" "	"	muscle	W	(0.04-0.10) 0.07±SD 0.02	Zook et al. (1976)
Shrimp Penaeus californiensis	W. Mexico	"	W	(0.02-0.46) 0.12±SD 0.10	Reimer & Reimer (1975)
Blue leg king prawn Penaeus latisuleatus	Thailand		W	0.05	Huschenbeth & Harms (1975)
Prawn Penaeus merguiensis	"		W	0.02	"
Tiger prawn Penaeus monodon	"		W	(0.02-0.03)	"
Shrimp Penaeus orientalis	Japan	muscle	W	(ND-0.04)	Doi & Ui (1973)
Green tiger prawn Penaeus semisulcatus	Thailand		W	0.02	Huschenbeth & Harms (1975)
White shrimp Penaeus setiferus "shrimp"	(32 FDA analyses)		W	(0.005-0.043) 0.014	Simpson et al. (1974)
" "	Mexico	muscle	W	(0.01-0.16)	Reimer & Reimer (1975)
" "	N.W. Atlantic		D	(0.08-0.92) 0.24	Windom (1972)
" "	S.E. United States	whole	D	0.24	Sims & Presley (1976)
" "	Mississippi	muscle	W	(0.04-0.12) 0.07±SD 0.03	Zook et al. (1976)
" "	Florida	"	W	(0.08-0.18) 0.13±SD 0.04	"

EPA-287 (Cin.) (4-78)

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD BEGIN SECTIONS HERE

Shrimp Peneaus stylirostris	Mexico	muscle	W	(0.01-0.20)	Reimer & Reimer (1975)
Long-eyed swimming crab Podophthalma vigil	Hawaii	"	W	0.03±SD 0.01	Klemmer et al. (1976)
Aama swimming crab Portunus depressa	"	"	W	0.10±SD 0.0	"
Blood-spotted swimming crab Portunus sanguinolentus	"	"	W	0.09±SD 0.0	"
Decapod Systellaspis debilis	N.W. Africa		D	0.22	Leatherland et al. (1973)
Crenate swimming crab Thalamita crenata	Hawaii	muscle	W	0.09±SD 0.10	Klemmer et al. (1976)
Flathead lobster Thenus sp.	Thailand		W	0.04	Huschenbeth & Harms (1975)
Crab Xantho hydrophilus	North Adriatic	gill	W	0.93	Strohal & Dzajo (1971)
" "	"	"	D	6.7	"
" "	"	hepato-pancreas	W	3.3	"
" "	"	"	D	11.0	"
" "	"	muscle	W	0.42	"
" "	"	"	D	3.0	"
" "	"	digestive tract	W	0.4	"
" "	"	"	D	1.7	"
" "	"	gonad	D	1.2	"
" "	"	"	W	0.5	"

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA; OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
PAGE NUMBER
EPA-287 (Cin.) (4-76)

"Crevette"	Atlantic		D	(0.01-0.03) 0.02	Cumont et al. (1972)
Crustacea 5 species	N.W. Africa		D	1.45	in Andersen & Neelakantan (1974)
Crayfish	New Mexico Lake Powell	whole	W	(0.002-0.023) 0.01	Potter et al. (1975)
"	N.W. Ontario	muscle	W	(4.7-9.6)7.1	Vermeer et al. (1973)
"	Columbia River	"	W	(0.093-0.332) 0.180±0.068	Buhler et al. (1973)
"	" (below chlor-alkali plant-100 ft)	"	W	(1.33-3.02) 2.18±0.57	"
"	" (" 1 mi)	"	W	(1.35-1.41) 1.38±0.3	"
"	" (" 3 mi)	"	W	0.233	"
"Omnivorous aquatic insects and crustacea"	Canada			(0.14-1.16)	Bligh (1971)
Crustacea	Yugoslavia (near Hg mine & distillation plant)		W	7.34	Kosta et al. (1975)
Shrimp				(0.01-0.1)	Mitre Corp. (1975)
Queen crab	Gulf of St. Lawrence			0.4	Sprague & Carson (1970)
Crab	Washington Puget Sound	muscle	W	(0.022-0.054) 0.037±0.013	Buhler et al. (1973)
"	" Bellingham Bay	"	W	(0.077-0.529) 0.289±0.175	"
"	(236 FDA analyses)		W	0.11±0.09	Simpson et al. (1974)
"	Texas estuaries			(0.05-3.6)	Mitre Corp. (1975)

BEGIN FIRST LINE OF TEXT HERE
TYPING GUIDE SHEET
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD BEGIN SECTIONS HERE

MERCURY IN INSECTS (1)

Species	Locality	Tissue	Analysis (2) PPM	Authority
COLEOPTERA				
Whirligig beetle *Dytiscus marginalis*	France	whole	W 0.045	Cumont & Montial (1973)
Histerid beetle *Saprinus semistriatus*	Finland	fed on fly larva	W 0.59	Nuorteva & Häsänen (1972)
Scarab beetle *Scarabaeidae*	Lake St. Clair	in ring-billed gull stomach	W <0.10	Dustman et al. (1972)
Scavenger beetle *Tropisternus sp.*	South Carolina	with 0.8 µg/l of Hg in water	W 2.05	Cox et al. (1975)
DIPTERA				
Snipe fly *Atherix variegata*	Tennessee	larva	W (0.024-0.048)	Huckabee & Hildebrand (1974)

---

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median, and geometric mean are indicated as reported. pCi/g = picocuries per gram.

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

PAGE NUMBER
EPA-287 (Cin.) (4-76)

Blowfly Calliphora erythrocephala	Finland (reared on Hg containing fish)	larva	W	0.11	Nuorteva & Häsänen (1972)
" "	" "	adult	W	0.20	"
Blowfly Cynomyia mortuarum	" "	larva	W	0.13	"
" "	" "	adult	W	0.20	"
Blue bottle fly Lucilia caesar	"	wild	W	0.04	"
Blue bottle fly Lucilia illustris	" "	larva	W	(0.17-6.90)	"
" "	" "	adult	W	(0.93-10.62)	"
Blue bottle fly Lucilia silvarum	" "	larva	W	0.13	"
Stable fly Muscina assimilis	" "	"	W	(0.16-0.20)	"
" "	" "	adult	W	0.29	"
Flesh fly Parasarcophaga similis	" "	larva	W	3.48	"
" "	" "	adult	W	(0.23-13.0)	"
Chironomid Chironomidae	Lake Erie	larva	D	0.48	Skoch & Sikes (1973)
Midge Chironomus plumosus	Sweden	"	W	0.23	Johnels et al. (1967)
Chironomid Pontoporeia affinis	Washington	"	D	(0.016-0.30)	Bissonnette (1977)
"Diptera"	Yugoslavia		W	0.0715	Byrne et al. (1971)
"	"	adult	W	0.66	Kosta et al. (1975)

EPHEMEROPTERA					
Mayfly Ephemeroptera	Yugoslavia		W	(0.000035-0.075)	Byrne et al. (1971)
"	" (below source)	nymph	W	(1.10-3.07)	Kosta et al. (1975)
"	Ontario	in stomach of golden-eye, nymph	W	2.81	Vermeer et al. (1973)
Mayfly Stenonema sp.	Tennessee	nymph	W	(0.057-0.066)	Huckabee & Hildebrand (1974)
HEMIPTERA					
Water boatman Corixidae	Ontario	in stomach of golden-eye	W	5.2	Vermeer et al. (1973)
Water boatman Hesperocorixa sp.	South Carolina		W	0.02	Cox et al. (1975)
Water scorpion Ranatra	Ontario	in stomachs of goldeneye and merganser	W	2.82	Vermeer et al. (1973)
Backswimmer Notonecta indica	South Carolina	with 0.8 μg/l of Hg ion in water	W	1.30	Cox et al. (1975)
Backswimmer Notonecta unifasciata	France		W	0.061	Cumont & Montiel (1973)
HOMOPTERA					
Aphid Macrosiphium gei	Illinois	Fed on Hg-treated tomato plants	W	(0.27-11.53)	Haney & Lipsey (1973)

TYPING GUIDE SHEET

Aphid *Macrosiphium gei*	Illinois	control	W	(0.08-0.81)	Haney & Lipsey (1973)
HYMENOPTERA					
Bees and wasps "*Hymenoptera*"	Ontario	pupae in stomach of goldeneye	W	0.30	Vermeer et al. (1973)
NEUROPTERA					
Lacewing *Chrysopa carnea*		Fed on Hg-treated tomato plants		(0.57-31.38)	Haney & Lipsey (1973)
" "		control		(0.0-1.08)	"
Hellgramite *Corydalis sp.*	Lake St. Clair	in American bittern stomach	W	0.34	Dustman et al. (1972)
Fish fly *Nigronia sp.*	Tennessee		W	0.048	Huckabee & Hildebrand (1974)
Alderfly *Sialis sp.*	Sweden (1-6 km below paper mill)		W	(4.8-5.5)	Johnels et al. (1971)
" "	" (1-20 km above paper mill)		W	(0.049-0.052)	"
ODONATA					
Damselfly *Argia sp.*	South Carolina	with .08 µg/l of Hg in water	W	23.20	Cox et al. (1975)
Dragonfly *Cordulegaster sp.*	Tennessee	nymph	W	0.048	Huckabee & Hildebrand (1974)
Dragonfly *Lanthus sp.*	"	"	W	0.048	"

EPA-287 (Cin.) (4-73)

Dragonfly *Neurocordulina albamensis*	South Carolina (control area)	nymph	W	0.21	Cox et al. (1975)
" "	" (with 0.8 µg/l of Hg in water)	"	W	14.3	"
Dragonfly "Odonata"	Ontario	in stomach of golden-eye	W	0.45	Vermeer et al. (1973)
PLECOPTERA					
Stonefly *Acroneuria sp.*	Tennessee	nymph	W	0.035	Huckabee & Hildebrand (1974)
Stonefly *Isoperla sp.*	Sweden (17 km below paper mill)		W	2.4	Johnels et al. (1971)
" "	" (15 km above paper mill)		W	0.072	"
Stonefly *Peltoperla sp.*	Tennessee	nymph	W	0.017	Huckabee & Hildebrand (1974)
Stonefly *Perlidae*	"	"	W	0.021	"
Stonefly *Pteronarcys*	"	"	W	(0.002-0.08)	"
Stonefly "Plecoptera"	Yugoslavia		W	(0.000072-0.0026)	Byrne et al. (1971)
SIPHUNCULATA					
Sucking louse *Antarctophthirus callorhini*	Alaska	parasite on northern fur seal	W	(0.221-0.63)	Kim et al. (1974)
Sucking louse *Proechinophthirus flucus*	"	"	W	0.513	"

TRICHOPTERA					
"	Yugoslavia		W	(0.00008-0.0476)	Byrne et al. (1971)
"	" (polluted area)	larva	W	(0.45-7.24)	Kosta et al. (1975)
"	" "	pupa	W	(0.24-8.86)	"
Caddis fly Brachycentrus sp.	Tennessee	larva	W	(0.02-0.033)	Huckabee & Hildebrand (1974)
Net-spinning caddis worm Hydropsyche pellucidula	Sweden (below dam)		W	(1.22-1.7)	Johnels et al. (1971)
Caddis fly Hydropsychidae	" "		W	0.034	"
Caddis flies Tretonius sp. Glossoma sp. Rhyacophila sp.	 " " " " " "		W	0.034	"
Caddis fly "Trichoptera"	" (below paper mill)		W	(5.6-17.0)	"
"	" (15 km above paper mill)		W	0.053	"
"Predatory aquatic insects and frogs"	Canada			(0.01-5.82)	Bligh (1971)
"Omnivorous aquatic insects and crustacea"	"			(0.14-1.16)	"

MERCURY IN LOWER INVERTEBRATES (1)

Species	Locality	Tissue	Analysis PPM (2)	Authority
PORIFERA				
Sponge *Halichondria panicea*	Great Britain		D 0.33	Leatherland & Burton (1974)
COELENTERATA				
Sea pen *Cavernularis obesa*	Japan, Minamata Bay		D 9.6	Matida & Kumada (1969)
"Sea anemone"	"		D 41.0	"
"	" Onuki		D 0.9	"
Tealia felina	Great Britain		D 0.86	Leatherland & Burton (1974)
SCYPHOZOA				
Pelagia sp.	S.W. Africa		D 0.07	Leatherland & Burton (1973)

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median and geometric mean are indicated as reported. pCi/g = picocuries per gram.

ANNELIDA					
Sandworm *Arenicola marina*	Netherlands		W	(0.021-0.046)	Koeman et al. (1971)
Leech *Helobdella sp.*	Sweden (below dam)		W	(2.35-4.4)	Johnels et al. (1967)
" "	" (above dam)		W	0.025	"
Leech *Hirudinea*	Yugoslavia (stream below town)		W	0.403	Byrne et al. (1971)
"	" (stream above town)		W	0.00017	"
Earthworm *Lumbricus sp.*	Lake St. Clair	in stomach of garter-snake	W	0.27	Dustman et al. (1972)
Earthworm *Lumbricus terrestris*	Great Britain Dist. from chlor-alkali plant (km):	whole less gut contents			Bull et al. (1977)
" "	" " <0.5	"	W	(0.27-3.27) 1.29±SE 0.32	"
" "	" (control) 10-30	"	W	(0.031-0.048) 0.041±SE 0.006	"
Clamworm, ragworm *Nereis diversicolor*	Great Britain		D	0.35	Leatherland & Burton (1974)
TUNICATA *Botryllus schlosseri*	Great Britain		D	0.57	Leatherland & Burton (1974)
Pyrosoma sp.	N.W. Africa		D	0.07	Leatherland et al. (1973)

Styela clava	Great Britain		D	0.13	Leatherland & Burton (1974)
Styela plicata	Japan, Minamata Bay		D	(35.0-56.0)	Matida & Kumada (1969)
ECHINODERMATA					
Flat sea urchin Colobocentrotys mamillatus	Hawaii		W	0.08±SD 0.11	Klemmer et al. (1976)
Sea urchin Echinometra methei	"		W	0.00	"
Sea cucumber Holothuria atra	"		W	0.04±SD 0.05	"
Brittle star Ophiophalis sp.	S. California	whole	W	0.163	Williams & Weiss (1973)
" "	"	"	D	0.280	"
Brittle star Ophiothrix sp.	Hawaii		W	0.00	Klemmer et al. (1976)
"Sea cucumber"	California La Jolla		D	0.4	Klein & Goldberg (1970)
Sea urchin Tripneustes gratilla	Hawaii		W	0.03±SD 0.06	Klemmer et al. (1976)

MERCURY IN HIGHER PLANTS(1)

Species	Locality	Tissue	Analysis(2) PPM	Authority
Sugar maple *Acer saccharum*	Connecticut	leaf	D 0.81±0.16	Smith (1972)
" "	"	"	A 6.34±1.22	"
Ailanthus *Ailanthus altissima*	"	"	D 0.61±0.02	..
" "			A 2.42±0.08	"
White onion *Allium cepa*	Texas	tuber	W (0.033-0.049) 0.044	Gerdes et al. (1974)
" "	Kentucky	"	(0.0-1.09)	Hammons et al. (1975)
Green onion *Allium porrum*	Texas	stem	W (0.012-0.018) 0.015	Gerdes et al. (1974)
Peach *Amygdalus persica*	"	fruit (commercial)	W (0.057-0.073) 0.063	
" "	"	fruit (home grown)	W (0.016-0.02) 0.019	"
Nectarine	"	fruit	W (0.094-0.1) 0.097	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (S.D.), standard error (S.E.), median and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Alder *Alnus crispa*	Alaska (over cinnabar)	stem	D 1.0	Shacklette (1970)
Celery *Apium graveolens*	Texas	stalk	W (0.007-0.023) 0.016	Gerdes et al. (1974)
Peanut *Arachis hypogaea*	Lower Dahomey	nut	D (0.017-0.33)	Cresta et al. (1975)
Sandwort *Arenaria setacea*			excellent accumulator & indicator plant	Bowen (1966)
Oats *Avena sativa*	Kentucky		0.012	Dassani et al. (1975)
" "	Michigan		(0.005-0.01) 0.01	Gomez & Markakis (1974)
" "	Ontario	grain	D 0.113	MacLean (1974)
" "	"	straw	D 0.197	"
Beet *Beta vulgaris*	Kentucky	seed	0.042	Dassani et al. (1975)
Dwarf birch *Betula nana*	Alaska (over cinnabar)	stem	D (0.5-1.0)	Shacklette (1970)
White birch *Betula papyrifera* ssp. *humilis*	"	"	D (0.5-2.0)	"
White birch *Betula papyrifera*	"	twig	A 1150.0	Warren et al. (1966)
Cauliflower *Brassica oleracea botrytis*	Texas	head	W (0.02-0.046) 0.024	Gerdes et al. (1974)

Cauliflower *Brassica oleracea botrytis*	Italy	head	W 0.005	Cigna Rossi et al. (1976)
Cabbage *Brassica oleracea capitata*	Texas	head	W (0.027-0.123)0.059	Gerdes et al.(1974)
Broccoli *Brassica oleracea italica*	Texas	head	W (0.024-0.027) 0.026)	Gerdes et al. (1974)
Northern reed grass *Calamagrostis canadensis*	Yellowknife, N.W.T.		D (0.89-17.11)	O'Toole et al. (1971)
Chili pepper *Capsicum annuus*	Texas		W (0.05-0.06)0.055	Gerdes et al. (1974)
Green pepper *Capsicum frutescens*	Texas		W (0.001-0.103)0.037	"
European chestnut *Castanea sativa*	Italy	fruit	W 0.05	Cigna Rossi et al. (1976)
Lime *Citrus aurantiifolia*	Texas	fruit	W (0.087-0.135)0.111	Gerdes et al. (1974)
Lemon *Citrus limonia*	Texas	fruit	W (0.075-0.158)0.11	"
Grapefruit *Citrus paradisi*	Texas	fruit	W (0.028-0.034)0.031	"
Orange *Citrus sinensis*	Texas	fruit	W (0.074-0.102)0.092	"
Mandarin orange *Citrus tachibana*	Japan, leaves sprayed with Hg	fruit skin	(0.03-0.24)	Mouyu & Survanai (1965)
" "	Japan (unsprayed)	"	(0.01 0.05)	"

Mandarin orange *Citrus tachibana*	Japan (leaves sprayed with Hg)	fruit pulp	(0.01-0.4)	Mouyu & Survanai (1965)
Crocus *Crocus albilorus*	Slovenia (near Hg factory)	sub-surface root	W 1.1	Byrne & Kosta (1972)
Melon *Cucumis melo*	Texas		W (0.006-0.013) 0.008	Gerdes et al. (1974)
Cucumber *Cucumis sativus*	Texas		W (0.002-0.019) 0.01	"
Squash *Cucurbita pepo*	Texas		W (0.001-0.005)0.003	"
Carrot *Daucus carota*	Texas	root	W (0.004-0.006)0.005	"
" "	Kentucky	"	(0.0-0.28)	Hammons et al. (1975)
" "	Ontario	"	D 0.086	MacLean (1974)
" "	"	top	D 0.193	"
" "	Yugoslavia	leaf	W 0.77	Kosta et al. (1975)
" "	"	root	W (0.16-0.28)	"
" "	Italy	"	W 0.006	Cigna Rossi et al. (1976)
Mormon tea *Ephedra sp.*	Arizona, Lake Powell		D (0.015-0.065)	Potter et al. (1975)
Heath *Erica carnea*	Yugoslavia	stalk & leaf	W 2.25	Kosta et al. (1975)
Strawberry *Fragaria vesca*	Texas	berry	W (0.043-0.053) 0.048	Gerdes et al. (1974)

Strawberry Fragaria vesca	Italy	berry	W 0.066	Cigna Rossi et al. (1976)
Bedstraw Galium molugo	Yugoslavia	leaf	W 4.45	Kosta et al. (1975)
" "	"	stem	W 1.74	
Snakeweed Gutierrezia microcephala	Arizona, Lake Powell		D 0.032	Potter et al. (1975)
" "	" "	submerged, decomposing	D 0.09	"
Soybean Glycine max	Ontario	bean	D 0.074	MacLean (1974)
" "	"	vine	D 0.25	"
Okra Hibiscus esculentus	Texas	pod	W (0.057-0.097) 0.073	Gerdes et al. (1974)
Jagged chickweed Holostium umbellatum			Droplets of metallic Hg in seed capsules, excellent indicator plant.	(1970) Shacklette
Barley Hordeum vulgare		grain	W <0.02	Smart (1968)
" "	Washington	"	W (0.058-0.117)	Haller et al. (1969)
Sweet potato Ipomoea batatas	Texas	tuber	W (0.019-0.024) 0.021	Gerdes et al. (1974)
Iris Iris pseudacorus	Sweden		(0.04-0.098)	Hannerz (1968)
Red cedar Juniperus virginiana	Missouri	leaf	D <0.5	Shacklette (1970)

Juniper *Juniperus sp.*	Arizona, Lake Powell		D (0.015-0.065)	Potter et al. (1975)
Lettuce *Lactuca sativa*	Texas	leaf	W (0.019-0.021) 0.02	Gerdes et al. (1974)
" "	Ontario	"	D 0.111	MacLean (1974)
Prickly lettuce *Lactuca serriola*	Yugoslavia	leaf	W 0.06	Kosta et al. (1975)
" "	"	middle of root	W 0.008	"
Labrador tea *Ledum palustre ssp. decumbens*	Alaska (over cinnabar)	stem	D (1.0-3.5)	Shacklette (1970)
Hawkbit *Leontodon hispidus*	Yugoslavia	leaf	W 1.66	Kosta et al. (1975)
Tomato *Lycopersicum esculentum*	Great Britain	fruit	W (0.012-0.11)	Smart (1968)
" "	(grown in methyl Hg)	root	29.8	Haney & Lipsey (1973)
" "	"	terminal	3.4	..
" "	Texas	fruit	W (0.02-0.036) 0.031	Gerdes et al. (1974)
" "	Italy	"	W 0.001	Cigna Rossi et al. (1976)
" "	Ontario	"	D 0.034	MacLean (1974)
" "	"	vine	D 0.139	"
" "	Kentucky	fruit	0.05	Dassani et al. (1975)
" "	"	seed	9.45	"

Tomato Lycopersicum esculentum	Michigan	fruit	(0.0-0.01)	Gomez & Markakis (1974)
" "	Lower Dahomey	"	D 0.35	Cresta et al. (1975)
Moneywort Lysimachia nummularia	Sweden		(0.264-3.2)	Hannerz (1968)
Apple Malus malus	Japan	leaves sprayed Hg-fruit skin	(0.07-0.3)	Mouyu and Survanai (1965)
" "	"	unsprayed-fruit skin	(0.01-0.05)	"
" "	"	leaves sprayed Hg-fruit pulp	(0.03-0.13)	"
" "	"	unsprayed-fruit pulp	(0.01-0.05)	"
" "	Great Britain	fruit	W (0.002-0.12)	Smart (1968)
" "	Texas	(red) fruit	W (0.007-0.025) 0.014	Gerdes et al. (1974)
" "	"	(yellow) fruit	W (0.083-0.092) 0.086	"
" "	Washington		W 0.02±0.003	Haller et al. (1969)
Cassava Manihot utilitissima	Lower Dahomey	root	D (0.03-0.51)	Cresta et al. (1975)
" "	"	leaf	D 0.3	"
Alfalfa Medicago sativa	Ontario		D 0.16	MacLean (1974)

Mentha spicata	(plants grown in 0.4 ppm Hg)	root	W 90.0	Barber et al. (1973)
" "	" "	leaf	W (0.13-0.41)	"
Banana *Musa spp.*	Texas	fruit	W (0.032-0.147) 0.085	Gerdes et ai. (1974)
Tobacco *Nicotiana tabacum*	Japan	leaf (treated with Hg)	(0.98-1.6)	Saito (1967)
" "	United States	cigarette	(0.04-0.55)	Andren & Harriss (1971)
" "	"	cigar	0.109	"
" "	"	pipe tobacco	(0.185-0.241)	"
" "		imported cigar	0.033	"
" "	Ontario	stem	D ND	MacLean (1974)
" "	"	leaf	D 0.088	"
Water lily *Nymphaea alba*	Sweden (normal)		W 0.016	Johnels et al. (1967)
" "	Sweden (polluted water)		W 0.52	"
Rice *Oryza sativa*	Japan	grain	W (0.23-1.0)	Smart (1968)
" "	Great Britain (imports)	grain	W (0.005-0.015)	"
" "	Japan	leaves sprayed Hg-grain	(0.1-0.7)	Mouyu & Survanai (1965)
" "	"	unsprayed-grain	(0.02-0.1)	"

Rice *Oryza sativa*	Korea	grain	0.131	Kim et al. (1969)
" "	Texas	"	W (0.08-0.092) 0.087	Gerdes et al. (1974)
" "		"	W (0.059-0.066)	Haller et al. (1969)
" "	Kentucky		(0.05-1.0)	D'Itri (1972)
Hornbeam *Ostrya carpinifolia*	Yugoslavia	bark	W 0.45	Kosta et al. (1975)
" "	"	wood	W (0.023-0.029)	"
Peucedanum oreoselinum	Yugoslavia		W (0.96-7.15)	"
Lima bean *Phaseolus lunatus*	Texas	bean	W (0.04-0.05) 0.046	Gerdes et al. (1974)
" "	"	"	D (0.17-0.21)0.19	"
" "	Washington	"	D 0.036±0.016	Haller et al. (1969)
Bean *Phaseolus vulgaris*	(grown in phenyl mercuric acetate)	root	10.0	Pickard & Martin (1959)
" "	" " "	terminals	(0.09-0.9)	"
" "	Texas	string bean	W (0.046-0.057) 0.051	Gerdes et al. (1974)
Norway spruce *Picea abies*	Connecticut	twig & leaf	D 0.22±0.01	Smith (1972)
" "	"	"	A 6.0±0.21	"
Black spruce *Picea mariana*	Alaska (over cinnabar)	stem & leaf	D (1.0-1.5)	Shacklette (1970)

Austrian pine *Pinus nigra*	Connecticut	leaf	D 0.17±0.05	Smith (1972)
" "	"	"	A 5.43±1.58	"
" "	"	twig	D 0.08±0.01	"
" "	"	"	A 2.11±0.14	
Ponderosa pine *Pinus ponderosa*	Idaho	wood	D (0.005-0.022)	Sheppard & Funk (1975)
" "	"	"	Hg in tree rings correlated with nearby mining activity.	" "
Pea *Pisum sativum*		Hg treated seed to next generation	0.162±0.033	James & Lagerwerff (1972)
" "		control	(0.048-0.014)	"
" "	Washington		D 0.025±0.015	Haller et al. (1969)
London plane *Platanus acerifolia*	Connecticut	leaf	D 0.71±0.14	Smith (1972)
" "	"	"	A 6.11±1.23	"
" "	"	twig	D 0.13±0.04	"
" "	"	"	A 3.39±0.99	"
Polygonatum officinale	Yugoslavia	leaf	W 1.52	Kosta et al. (1975)
Pondweed *Potamogeton nodosus*	Illinois	stem	D 0.04±0.013	Anderson & Smith (1977)
" "	"	leaf	D 0.062±0.023	"
" "	"	leaf (max.)	D 0.35	"

Cherry *Prunus avium*	Slovenia factory area	bark	W	59.0	Byrne & Kosta (1972)
" "	Slovenia high Hg soil	"	W	6.0	"
" "	Slovenia uncontam. area	"	W	0.063	"
Cherry *Prunus spp.*	Texas	fruit	W	(0.004-0.014) 0.008	Gerdes et al. (1974)
Plum *Prunus domestica*	"	"	W	(0.047-0.282) 0.124	"
Pear *Pyrus communis*	Australia	"	W	(0.04-0.26)	Smart (1968)
" "	Texas	"	W	(0.0-0.092) 0.045	Gerdes et al. (1974)
" "	Washington	"	W	0.013±0.003	Haller et al. (1969)
White oak *Quercus alba*	Missouri	branch	D	<0.5	Shacklette (1970)
Over-cup oak *Quercus lyrata*	"	"	D	<0.5	"
Pin oak *Quercus palustris*	Connecticut	leaf	D	0.76±0.13	Smith (1972)
" "	"	"	A	12.2±2.06	"
Oak *Quercus sp.*	Yugoslavia	"	W	12.14	Kosta et al. (1975)
" "	"	stem	W	2.33	"
Post oak *Quercus stellata*	Missouri	branch	D	<0.5	Shacklette (1970)

Radish *Raphanus sativus*	Texas	root	W	(0.001-0.007) 0.004	Gerdes et al (1974)
Red mangrove *Rhizophora mangle*	Florida	leaf	D	0.26±0.01	Lindberg & Harris (1974)
" "	"	litter	D	0.79±0.02	"
Rhododendron *Rhododendron maximum*	Tennessee			0.024	Huckabee (1973)
Winged sumach *Rhus copallina*	Missouri	branch	D	<0.5	Shacklette (1970)
Smooth sumach *Rhus glabra*	"	"	D	<0.5	"
Blackberry *Ribes sp.*	Italy	fruit	W	0.01	Cigna Rossi et al. (1976)
Wild rose *Rosa acicularis*	Yellowknife, NWT	leaf	D	(0.11-0.23)	O'Toole et al. (1971)
Salvia *Salvia pratensis*	Yugoslavia	leaf	W	(0.25-3.91)	Kosta et al. (1975)
" "	"	stalk	W	(0.23-0.61)	"
Elderberry *Sambucus nigra*	Slovenia Hg factory area	stem	W	1.1	Byrne & Kosta (1972)
Eggplant *Solanum melogena*	Texas	fruit	W	(0.045-0.048) 0.047	Gerdes et al. (1974)
Pink *Silene cucubalis*	Yugoslavia	leaf	W	6.8	Kosta et al. (1975)
" "	"	stalk	W	0.91	"

Potato *Solanum tuberosum*		leaf sprayed Hg-potato	W	(0.02-0.032)	Smart (1964)
" "		unsprayed, potato	W	0.005	"
" "				(0.001-0.015) 0.003	Simpson et al. (1974)
" "	Texas	tuber	W	(0.026-0.042) 0.034	Gerdes et al. (1974)
" "	Ontario	"	D	0.047	MacLean (1974)
" "	"	leaf & stem	D	0.364	"
" "	Kentucky	tuber		0.012	Dassani et al. (1975)
" "	Michigan	"		(0.01-0.015)	Gómez & Markakis (1974)
Saltgrass *Spartina alterniflora*	S.E. United States			(0.07-0.37) 0.20	Windom (1974)
" "	N.W. Atlantic	leaf	D	0.76	Windom (1972)
" "	"	root	D	3.61	"
Spinach *Spinaca oleracea*	Lower Dahomey		D	(0.24-1.85)	Cresta et al. (1975)
Dandelion *Taraxacum officinale*	Yugoslavia	leaf	W	0.07	Kosta et al. (1975)
Spiraea *Spiraea beauverdiana*	Alaska		D	3.0	Shacklette (1970)
Starwort *Stellaria setacea*	Spain		excellent indicator plant for mercury ores		Cannon (1971)

Yew *Taxus spp.*	Connecticut	twig & leaf	D	0.85±0.23	Smith (1972)
" "	"	"	A	10.97±2.94	"
Basswood *Tilia cordata*	"	leaf	D	1.10±0.12	"
" "	"	"	A	5.34±0.56	"
Spanish moss *Tillandsia usnoides*	S.E. United States		D	(<0.5-0.7)	Shacklette & Connor (1973)
Wheat *Triticum aestivum*		grain	W	(0.008-0.012)	Smart (1968)
" "	Sweden	coleoptile		0.15	Nelson et al. (1971)
" "	"	leaf		(0.07-0.08)	"
" "	"	grain		0.01	"
" "	"	Hg treated seed, to next generation		0.031±0.007	James & Lagerwerff (1971)
" "	"	control		0.01±0.004	"
" "	Kentucky	grain		7.15	Dassani et al. (1975)
" "	Michigan	"		(0.01-0.025) 0.02	Gomez & Markakis (1974)
Eastern hemlock *Tsuga canadensis*	Tennessee			0.025	Huckabee (1973)
Coltsfoot *Tussilago farfara*	Slovenia	shoot	W	0.044	Byrne & Costa (1972)
" "	Yugoslavia	leaf	W	0.02	Kosta et al. (1975)

Grape *Vitis sp.*	Yugoslavia	fruit	W	(0.083-0.12)	McLean (1974)
" "	Washington	raisin		0.063±0.018	Haller et al. (1969)
Corn *Zea mays*	Texas	grain	W	(0.006-0.033) 0.016	Gerdes et al. (1974)
" "	"	corn meal	W	(0.093-0.103) 0.098	"
" "	Ontario	grain	W	N.D.	MacLean (1974)
" "	Lower Dahomey	"	D	(<0.01-0.22)	Cresta et al. (1975)
" "	" "	flour	D	(0.08-0.24)	"

MERCURY IN LOWER PLANTS (1)

Species	Locality	Tissue	Analysis PPM (2)	Authority
MOSS				
Brachythecium rivulare	Tennessee (remote areas)		0.044	Huckabee (1973)
Bryum argentum	Hawaii		D 0.198	Siegel et al. (1975)
Ceratodon purpurea	"		D 0.036	"
" "	Alaska		D 0.028	"
Dicranella sp.	Hawaii		D 0.030	"
" "	Iceland		D (0.096-0.530)	"
Dicranum scoparium	Tennessee (exposed to fly ash near smokestacks)		1.13±SD 0.19	Huckabee (1973)
" "	" (remote areas)		0.118±0.036	"
" "	" (Great Smoky Mts.)		0.066±0.034	"
" "	Hawaii		D 0.160	Siegel et al. (1975)
" "	Iceland		D 0.028	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ±Standard deviation (SD), standard error (SE), median and geometric mean are indicated as reported. pCi/g = picocuries per gram.

Eurynchium hians	Tennessee		0.044	Huckabee (1973)
Fontinalis sp.	Norway (normal)	W	0.076	Johnels et al. (1967)
" "	" (polluted water)	W	3.7	"
Funaria hygrometrica	Hawaii	D	0.029	Siegel et al. (1975)
Hylocomium splendens	S. Norway	D	0.2	Ruhling & Tyler (1973)
" "	N. "	D	(0.05-0.07)	"
" "	N.E. Sweden	D	(0.1-0.2)	"
" "	Finland	D	(0.1-0.2)	"
Leucobryum sp.	Iceland	D	0.320±SD 0.033	Siegel & Siegel (1976)
" "	Montenegro	D	0.365±SD 0.030	"
Polytrichum commune	Tennessee (remote area)		(0.045-0.092)	Huckabee (1973)
Polytrichum sp.	Greenland	D	0.083	Siegel & Siegel (1976)
" "	Iceland	D	(0.078-0.198)	"
" "	Hawaii	D	0.087±SD 0.017	"
" "	Alaska	D	1.2	"
" "	Montenegro	D	0.375±SD 0.027	"
Rhacomitrium sp.	Greenland	D	0.043	"
" "	Iceland	D	0.450±SD 0.021	"
" "	Hawaii	D	0.024±SD 0.005	"
" "	Montenegro	D	0.675±SD 0.039	"
" "	Hawaii	D	0.250	Siegel et al. (1975)
" "	Iceland (Surtsey)	D	0.024	"

Rhytidiadelphus sp.	Hawaii		D	0.005	Siegel et al. (1975)
Sharpiella striatella	Tennessee (remote area)			0.044	Huckabee (1973)
Sphagnum sp.	Alaska		D	<0.001	Siegel et al. (1975)
Moss (Many species)	New England		D	(<0.05-2.0)	Yeaple (1972)
Moss	in Rhine area			Drops of metallic mercury under moss plants	in Shacklette (1970)
LICHENS					
Cladonia sp.	Iceland	whole	D	0.005	Siegel & Siegel (1976)
" "	Greenland	"	D	0.098	"
" "	Alaska	"	D	(0.004-0.04)	"
" "	Massachusetts	"	D	0.03	"
" "	Montenegro	"	D	0.999±SD 0.078	"
Collema sp.	Alaska	"	D	0.140±SD 0.017	"
" "	Montenegro	"	D	0.285±SD 0.021	"
Haematoma sp.	Hawaii	"	D	0.243±SD 0.030	"
" "	Montenegro	"	D	0.965±SD 0.060	"
Parmelia caperata	Sendai, Japan	"	D	(0.32-0.46) 0.35±SD 0.08	Saeki et al. (1977)
Parmelia clavulifera	"	"	D	0.33±SD 0.08	"
Parmelia conspersa	"	"	D	0.33±SD 0.06	"
Parmelia tinctorum	"	"	D	0.35±SD 0.09	"
Parmelia sp.	Iceland	"	D	0.045	Siegel et al. (1975)
" "	Alaska	"	D	0.150	"

Stereocaulon sp.	Hawaii	whole	D	(0.022-0.031)	Siegel et al. (1975)
" "	Iceland	"	D	0.022	"
Usnea sp.	"	"	D	0.05±SD 0.007	Siegel & Siegel (1976)
" "	Hawaii	"	D	(0.134-0.233)	Siegel et al. (1975)
" "	Montenegro	"	D	0.443±SD 0.042	Siegel & Siegel (1976)
" "	Alaska	"	D	0.108	"
FUNGI					
Agaricus campestris	"		D	0.025	Siegel et al. (1975)
Amanita muscaria	Yugoslavia	cap	D	(1.0-2.07)	Kosta et al. (1974)
" "	"	stalk	D	(0.55-0.82)	"
Amanita pantherina	"	whole	D	(12.4-12.9)	"
Amanita phalloides	"	cap	D	0.18	"
" "	"	stalk	D	0.08	"
Auricularia auricula	Hawaii		D	0.220	Siegel et al. (1975)
Coprinus comatus	Yugoslavia	whole	D	2.07	Kosta et al. (1974)
Cortinarius praestans	" (near smelter)	"	D	35.0	"
Cortinarius saturatus	" "	"	D	9.46	"
Fomes aplanatus	Hawaii		D	0.036	Siegel et al. (1975)
Hygrocybe punicea	Yugoslavia	"	D	(0.47-0.49)	Kosta et al. (1974)
Hypholoma fasciculare	"	"	D	(7.8-8.0)	"

Lactarius deliciosus	Yugoslavia	whole	D	0.75	Kosta et al. (1974)
" "	" (near smelter)	"	D	(3.6-37.6)	"
Lactarius torminosus	" "		D	0.54	"
Lycoperdon perlatum	" "	"	D	2.32	"
" "	" "	spores	D	1.43	"
" "	" "	"	D	(33.5-47.1)	"
Macrolepiota procera	"	cap	D	(1.9-3.52)	"
Pluteus cernuus	Hawaii		D	1.164	Siegel et al. (1975)
Polyporus versicolor	"		D	0.092	"
" "	Massachusetts		D	0.180	"
" "	Vermont		D	0.080	"
Ramaria pallida	Yugoslavia		D	0.81	Kosta et al. (1974)
Sarcodon imbricatum	"		D	(18.0-19.4)	"
Suillus bovinus	"		D	0.14	"
Trametes scabrosa	Hawaii		D	0.118	Siegel et al. (1975)
" "	Maui		D	0.058	"
" "	Oahu		D	0.021	"

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD BEGIN SECTIONS HERE

MERCURY IN ALGAE (1)

Species	Locality	Tissue	Analysis (2) PPM	Authority
Red alga __Ahnfeltia plicata__	Great Britain		D 0.14	Leatherland & Burton (1974)
Brown alga, knotted wrack __Ascophyllum nodosum__	Norway		D (ND-1.2)	Stenner & Nickless (1974)
" "	" (unpolluted)		D (0.05-0.08) 0.07	Haug et al. (1974)
" "	" (polluted)		D (0.05-0.18)	"
" "	" "		D 20.0 (max.)	"
" "	"		W 0.1	Lande (1977)
" "	Great Britain		D 0.319	Jones et al. (1972)
" "	"		W 0.067	"
Red alga __Ceramium rubrum__	"		D 3.031	"
" "	"		W 0.485	"

(1) Blank spaces indicate information not available or not applicable. ? indicates questionable data.

(2) W, D or A indicates on a Wet, Dry or Ashed basis. A single number indicates a single determination or mean. (x-y) indicates range of values, followed by the mean. ± Standard deviation (SD), standard error (SE), median and geometric mean are indicated as reported. pCi/g = picocuries per gram.

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
3/8"
PAGE NUMBER

EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD: BEGIN SECTIONS HERE

Chara vulgaris	France	W	0.029	Cumont & Montiel (1973)
Red alga Chondrus crispus	Great Britain	D	0.07	Leatherland & Burton (1974)
Green alga Cladophora pellucida	North Adriatic	W	0.0248	Strohal & Dzajo (1971)
" "	"	D	0.381	"
Green alga Cladophora rupestris	Great Britain	D	0.826	Jones et al. (1972)
" "	"	W	0.128	"
" "	France	W	0.068	Cumont & Montiel (1973)
Green alga Codium fragile	Korea	D	0.29	Kim (1972)
Seaweed Cystophyllum sisymbrioides	"	D	0.31	"
Brown alga Cystoseira abrotanifolia	North Adriatic	W	0.0317	Strohal & Dzajo (1971)
" "	"	D	0.558	"
Seaweed Ecklonia stolonifera	Korea	D	(0.14-0.46)	Kim (1972)
Green alga Enteromorpha compressa	Great Britain	D	1.007	Jones et al. (1972)
" "	"	W	0.141	"
Green alga Enteromorpha intestinalis	North Adriatic	W	0.0123	Strohal & Dzajo (1971)
" "	"	D	0.271	"

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA: OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
PAGE NUMBER
EPA-287 (Cin.) (4-76)

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD. BEGIN SECTIONS HERE

Green alga *Enteromorpha linza*	Korea		D	(0.09-0.47)	Kim (1972)
Green alga *Enteromorpha prolifera*	"		D	(0.35-0.50)	"
Green alga *Enteromorpha sp.*	Netherlands		W	0.046	Koeman et al. (1971)
Brown alga *Fucus serratus*	Great Britain		D	1.153	Jones et al. (1972)
" "	"		W	0.265	"
Brown alga *Fucus vesiculosus*	Germany		W	(0.018-0.023)	Stock & Cucuel (1934)
" "	Netherlands		W	0.07	Koeman et al. (1971)
" "	Sweden		W	0.023	Raeder & Snekvik (1941)
" "	Norway		D	0.5	Lande (1977)
" "	Great Britain	stipe & holdfast	W	0.096	Jones et al. (1972)
" "	"	bladder	W	0.029	"
" "	"	apical tip	W	0.043	"
Brown alga *Fucus virsoides*	North Adriatic		W	0.103	Strohal & Dzajo (1971)
" "	"		D	0.648	"
Seaweed *Gloiopeltis furcata*	Korea		D	(0.11-0.28)	Kim (1972)
Brown alga *Halidrys siliquosa*	Great Britain		D	0.22	Leatherland & Burton (1974)

6-1/2"
9-1/8"
BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA. OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
3/8"

PAGE NUMBER
EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD, BEGIN SECTIONS HERE

Seaweed *Iskige sinicola*	Korea		D	0.27	Kim (1972)
Brown alga *Laminaria digitata*	Great Britain		D	0.794	Jones et al. (1972)
" "	"		W	0.131	"
" "	"		D	0.17	Leatherland & Burton (1974)
Brown alga *Laminaria hyperborea*	Norway		W	0.037	Raeder & Snekvik (1941)
" "			W	(0.03-0.037)	Stock & Cucuel (1934)
Brown alga *Laminaria japonica*	Korea		D	(0.02-0.24)	Kim (1972)
Brown alga *Laminaria reliosa*	"		D	(0.02-0.35)	"
Brown alga *Laminaria saccharina*	Great Britain		D	0.16	Leatherland & Burton (1974)
Brown alga *Macrocystis pyrifera*	California		W	(<0.09-0.3) 0.2	Kishore & Guinn (1972)
" "	"		D	(0.18-0.27)	Robertson et al. (1972)
Nitella sp.	Sweden			0.14	Johnels et al. (1967)
Elk kelp *Pelagophycus porra*	S. California	bladder	W	(0.09-0.16)	Kishore & Guinn (1972)
" "	"	blade	W	(0.03-0.10)	"
" "	"	stipe	W	(0.10-0.47)	"

6-1/2"
BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA, OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS
5/8"

PAGE NUMBER
EPA-287 (Cin.)
(4-76)

TYPING GUIDE SHEET
BEGIN FIRST LINE OF TEXT HERE
CENTER OF PAGE
TOP OF IMAGE AREA
DROPPED HEAD: BEGIN SECTIONS HERE

Red alga *Polysiphonia lanosa*	Great Britain		D	0.612	Jones et al. (1972)
" "	"		W	0.150	"
Red alga, laverweed *Porphyra pseudolinearis*	Korea		D	(<0.02-0.12)	Kim (1972)
Red alga, laverweed *Porphyra tenera*	"		D	(<0.02-0.52)	"
Red alga *Porphyra umbilicalis*	Great Britain		D	2.353	Jones et al. (1972)
" "	"		W	0.506	"
Red alga, laverweed *Porphyra yezoensis*	Korea		D	0.14	Kim (1972)
Red alga *Rhodymenia palmata*	Great Britain, Arbroath		W	<0.001	Jones et al. (1972)
Sargassum weed *Sargassum fulvallum*	Korea		D	(0.01-0.09) 0.04	Kim & Won (1974)
" "	"		D	(<0.02-0.10)	Kim (1972)
Sargassum weed *Sargassum horneri*	"		D	0.39	"
Sargassum weed *Sargassum sp.*	N.W. Atlantic	leaf	D	0.44	Windom (1972)
Seaweed *Scytosiphon lomentaria*	North Adriatic		W	0.0106	Strohal & Dzajo (1971)
" "	"		D	0.194	"
Green alga *Ulva lactuca*	Netherlands		W	0.139	Koeman et al. (1971)
" "	North Adriatic		W	0.0156	Strohal & Dzajo (1971)
" "	"		D	0.196	"

BEGIN LAST LINE OF TEXT
BOTTOM OF IMAGE AREA OUTSIDE DIMENSION FOR TABLES AND ILLUSTRATIONS

PAGE NUMBER
EPA-287 (Cin.)
(4-76)